





THE LUESTHER T. MERTZ LIBRARY

THE NEW YORK BOTANICAL GARDEN





The chelæ are blue, becoming yellowish near the extreme tip, which is red. The tubercles of the chelæ are yellow. The antennæ are dark blue, with the alternating rings paler. The young mentioned above as having been taken from their tunnel, varied in total length from three-fourths to one and one-eighth inches. In color they were bluish green, rarely pale and flesh colored. Faxon has recorded that in the Indian Territory the Indians call this species "red crayfish." For this locality "blue crayfish" will be an appropriate name.

5. *Cambarus propinquus* Girard. This common species has been taken in the Allegheny and Monongahela Rivers and in many of the small streams throughout the county. In color it is variable, being usually a clear brownish green, tinged with red and with a large red blotch on the side of the carapace near the posterior edge.

6. *Cambarus rusticus* Girard. Ohio River, Neville Island. This species is similar in color to *propinquus*, which species it very much resembles.

# THE NEW YORK BOTANICAL GARDEN

## II. A PRELIMINARY LIST OF THE VASCULAR FLORA OF ALLEGHENY COUNTY, PENNSYLVANIA.

BY JOHN A. SHAFER, PH.G.

After waiting a number of years for the appearance of a Flora of Allegheny County, Pennsylvania, from another source, I have concluded to supply the deficiency in a manner as comprehensive as is possible with the material at present available.

At best the present list must be regarded as wholly preliminary. Nevertheless it is published in the hope that it may serve as a guide to students in their systematic work, as well as an invitation to others to participate in the preparation of a fuller and more perfect catalogue in the near future. Collectors are accordingly urged to make full records of each species wherever found. It is further hoped, and confidently expected, that all who use this list will submit to the writer the lists which they make, so as to render possible the compilation of a final catalogue. Those who submit such lists are also requested to kindly accompany them with herbarium specimens, in order to insure a correct identification. These specimens should, if possible, be submitted in duplicate: one set to be incorporated with the herbarium of the Carnegie Museum, in order to preserve a comprehensive representation of the species and its stations, the other set to be returned to the contributor after examination, determination, and study. Due credit will be given in the Museum catalogues, or future publications, for the specimens donated, or submitted. Explicit data as to the time of flower and fruit, (both of which should be collected), as well as the location, should be made and recorded on the labels. In noting location great exactness should be observed, and the collector should enter upon his labels the township, and even the farm and field, and in towns the name of the street and the number of the lot. Collectors in neighboring counties are invited to use this list for their respective districts, and likewise to submit their lists and specimens, with a view to the future preparation of a complete catalogue of the flora of western Pennsylvania.

No attempt has been made to utilize some of the quite recently

published revisions of a few of the more difficult groups. The order of arrangement is as nearly as possible that of Gray's Manual, sixth edition, selected only as a matter of convenience to those for whom this list is principally intended. The writer, being in the fullest accord with the nomenclature of the most recent authors, all are urged to acquire the "new names" at the earliest moment. To aid in this, the names used in Britton & Brown's Illustrated Flora of the Northern States and Canada are employed, those of Gray's Manual, where synonyms, being in italics. The numbers succeeding the natural order are those employed by Britton & Brown, and may serve as a guide to the arrangement of an herbarium in accordance with the accepted classification, the greater divisions being indicated by the Roman numerals, as follows :

- I. Pteridophyta.
- II. Gymnospermæ.
- III. Monocotyledones.
- IV. Chloripetalæ.
- V. Gamopetalæ.

The arrangement will at once be understood. No attempt at localizing the species is made except where it is considered rare and has been found but once or twice.

JOHN A. SHAFER.

Explanation of the signs used in this list :

- \* The specimen is in the herbarium of the Carnegie Museum.
- || The species has been seen by the writer, but is not in the herbarium.
- † Reported, but is not in the herbarium.
- ‡ The species may occur here, having been reported from a neighboring county.
- ? Reported, but of doubtful occurrence.

The blank space under each species is intended for the use of students of botany and collectors, who may desire to insert notes, or the names of additional species.

## RANUNCULACEÆ Jussieu.

### CROWFOOT FAMILY. IV-26.

#### CLEMATIS Linnaeus.

\* **C. Virginiana** Linnaeus. Virgin's bower.

\* **C. Viorna** Linnaeus. Leather-flower.

Near Oakdale Station, June, 1873, Professor B. H. Patterson.

**ATRAGENE** Linnæus.

§ **A. Americana** Sims. Purple virgin's bower.  
*Clematis verticillaris* De Candolle.

**ANEMONE** Linnæus.

\* **A. Virginiana** Linnæus. Tall anemone.

\* **A. Canadensis** Linnæus. Canada anemone.

*A. Pennsylvanica* Linnæus.

Hampton Township, Herron Station, July 2, 1891, Dr. A. Koenig.

\* **A. quinquefolia** Linnæus. Wind-flower.

Shaler Township, branch of Pine Creek, near Glenshaw, April 22, 1886.

§ **A. trifolia** Linnæus. Mountain anemone.

**HEPATICA** Scopoli.

\* **H. Hepatica** (Linnæus). Round liver-leaf.

\* **H. acuta** (Pursh). Pointed liver-leaf.

**SYNDESMON** Hoffmannsegg.

*ANEEMONELLA* Spach.

\* **S. thalictroides** (Linnæus). Rue-anemone.

**THALICTRUM** Linnæus.

\* **T. dioicum** Linnæus. Early meadow-rue.

\* **T. polygamum** Muhlenberg. Tall meadow-rue.

\* **T. purpurascens** Linnæus. Purplish meadow-rue.

**TRAUTVETTERIA** Fischer & Meyer.\* **T. Carolinensis** (Walter). False bugbane.*T. palmata* Fischer & Meyer.

Banks of Ohio River, near Pittsburgh, July 4, 1888, C. D. Beadle.

**RANUNCULUS** Linnaeus.\* **R. abortivus** Linnaeus. Small-flowered crowfoot.§ **R. micranthus** Nuttall. Rock-crowfoot.*R. abortivus* var. *micranthus* A. Gray.† **R. sceleratus** Linnaeus. Cursed crowfoot.\* **R. recurvatus** Poiret. Hooked crowfoot.\* **R. fascicularis** Muhlenberg. Tufted buttercup.\* **R. septentrionalis** Poiret. Marsh buttercup.† **R. Pennsylvanicus** Linnaeus. Bristly buttercup.† **R. bulbosus** Linnaeus. Bulbous buttercup.\* **R. acris** Linnaeus. Meadow buttercup.**Batrachium** S. F. Gray.† **B. trichophyllum** (Chaix). Water-crowfoot.*Ranunculus aquatilis* var. *trichophyllum* De Candolle.**CALTHA** Linnaeus.\* **C. palustris** Linnaeus. Marsh-marigold.

**AQUILEGIA** Linnæus.

\* **A. Canadensis** Linnæus. Wild columbine.

|| **A. vulgaris** Linnæus. European columbine.

Moon Township, roadside west of Carnot, June, 1888.

**DELPHINIUM** Linnæus.

\* **D. urceolatum** Jacquin. Tall larkspur.

*D. exaltatum* Aiton.

Patton Township, east of Wall's Station, Aug. 24, 1869, Rev. S. W. Knipe.

\* **D. tricorne** Michaux. Dwarf larkspur.

A white form is occasionally found.

\* **D. Consolida** Linnæus. Field larkspur.

Escaped to roadsides, Harrison and Moon Townships.

**CIMICIFUGA** Linnæus.

? **C. Americana** Michaux. American bugbane.

\* **C. racemosa** (Linnæus). Black cohosh.

**ACTÆA** Linnæus.

† **A. rubra** (Aiton). Red baneberry.

\* **A. alba** (Linnæus). White baneberry.

**HYDRASTIS** Ellis.

\* **H. Canadensis** Linnæus. Golden seal.

**MAGNOLIACEÆ** J. St. Hilaire.

MAGNOLIA FAMILY. IV-24.

**MAGNOLIA** Linnæus.

\* **M. acuminata** Linnæus. Cucumber-tree.

**LIRIODENDRON** Linnæus.

\* **L. Tulipifera** Linnæus. Tulip-tree.

**ANONACEÆ** De Candolle.

CUSTARD APPLE FAMILY. IV-25.

**ASIMINA** Adanson.

\* **A. triloba** (Linnæus). North American papaw.

**MENISPERMACEÆ** De Candolle.

MOONSEED FAMILY. IV-28.

**CEBATHA** Forskal.

*COCCULUS* De Candolle.

? **C. Carolina** (Linnæus). Carolina moonseed.

**MENISPERMUM** Linnæus.

\* **M. Canadense** Linnæus. Moonseed.

**BERBERIDACEÆ** Torrey & Gray.

BARBERRY FAMILY. IV-27.

**BERBERIS** Linnæus.

§ **B. vulgaris** Linnæus. European barberry.

**CAULOPHYLLUM** Michaux.

\* **C. thalictroides** Michaux. Blue cohosh.

**JEFFERSONIA** Barton.

\* **J. diphylla** (Linnæus). Twin-leaf.

**PODOPHYLLUM** Linnæus.

\* **P. peltatum** Linnæus. May-apple.

## NYMPHÆACEÆ De Candolle.

WATER-LILY FAMILY. IV-22.

## CASTALIA Salisbury.

NYMPHÆA Tournefort.

§ **C. odorata** (Dryander). White water-lily.*N. odorata* Aiton.§ **C. tuberosa** (Paine). Tuberous water-lily.*N. tuberosa* Paine.

## NYMPHÆA Linnæus.

NUPHAR Smith.

§ **N. advena** Solander. Yellow pond-lily.*Nuphar advena* Aiton.

Note.—None of the water-lilies have been reported from Allegheny County.

## SARRACENIACEÆ La Pylaie.

PITCHER-PLANT FAMILY. IV-35.

## SARRACENIA Linnæus.

§ **S. purpurea** Linnæus. Pitcher-plant.

In the absence of bogs, we can scarcely hope to find it in Allegheny County.

## PAPAVERACEÆ B. Jussieu.

POPPY FAMILY. IV-31.

## SANGUINARIA Linnæus.

\* **S. Canadensis** Linnæus. Bloodroot.

## STYLOPHORUM Nuttall.

† **S. diphyllum** (Michaux). Yellow poppy.

**CHELIDONIUM** Linnæus.

\* **C. majus** Linnæus. Celandine.

**PAPAVER** Linnæus.

\* **P. somniferum** Linnæus. Common poppy.

|| **P. dubium** Linnæus. Long smooth-fruited poppy.

Pittsburgh, Bailey Ave., July, 1888.

**ARGEMONE** Linnæus.

† **A. Mexicana** Linnæus. Prickly poppy.

**ADLUMIA** Rafinesque.

\* **A. fungosa** (Aiton). Alleghany vine.

*A. cirrhosa* Rafinesque.

Shaler Township, P. & W. R. R. tunnel, Sept., 1886, Hon. J. D. Shafer.

**BICUCULLA** Adanson.

~ **DICENTRA** Bernhardi.

\* **B. Cucullaria** (Linnæus). Dutchman's breeches.

*Dicentra Cucullaria* Gray.

\* **B. Canadensis** (Goldie). Squirrel-corn.

*Dicentra Canadensis* Gray.

**CAPNOIDES** Adanson.

**CORYDALIS** Ventenat.

\* **C. sempervirens** (Linnæus). Pale corydalis.

*Corydalis glauca* Pursh.

Harrison Township, rocks, on roadside near John Parke's, July 8, 1900.

† **C. flavulum** (Rafinesque). Yellow corydalis.

*Corydalis flavula* De Candolle.

\* **C. aureum** (Willdenow). Golden corydalis.

*Corydalis aurea* Willdenow.

**FUMARIA** Linnaeus.

† **F. officinalis** Linnaeus. Fumitory.

**CRUCIFERÆ** B. Jussieu.

MUSTARD FAMILY. IV-32.

**DENTARIA** Linnaeus.

\* **D. diphylla** Michaux. Pepper-root.

\* **D. laciniata** Muhlenberg. Cut-leaved toothwort.

|| **D. heterophylla** Nuttall. Slender toothwort.

Pittsburgh, 23d Ward, near Salt-works Station, 1888, Prof. W. S. Jackman.

**CARDAMINE** Linnaeus.

† **C. hirsuta** Linnaeus. Hairy bitter-cress.

\* **C. Pennsylvanica** Muhlenberg. Pennsylvania bitter-cress.

\* **C. purpurea** (Torrey). Purple cress.

South Fayette Township, near Marshalsea, May 11, 1900.

\* **C. bulbosa** (Schreber). Bulbous cress.

*C. rhomboidea* De Candolle.

\* **C. rotundifolia** Michaux. American water-cress.

**ARABIS** Linnaeus.

\* **A. lyrata** Linnaeus. Rock-cress.

\* **A. dentata** (Torrey). Toothed rock-cress.

Neville Township, south shore of island, May 3, 1890; O'Hara Township, river bank near Ross Station, May 9, 1900.

\* **A. lævigata** (Muhlenberg). Smooth rock-cress.

\* **A. lævigata** *Burkii* Porter. Burk's rock-cress.

\* **A. Canadensis** Linnæus. Sickle-pod.

† **A. glabra** (Linnæus). Tower mustard.

*A. perfoliata* Lamarck.

#### DRABA Linnæus.

\* **D. verna** Linnæus. Whitlow-grass.

#### KONIGA Adanson.

*ALYSSUM* Tournefort.

\* **K. maritima** (Linnæus). Sweet alyssum.

Sewickley, "ashery," foot of Walnut street, August, 1892.

Spreading! August 10, 1897.

#### RORIPA Scopoli.

*NASTURTIUM* R. Brown.

† **R. Nasturtium** (Linnæus). Water-cress.

*N. officinale* R. Brown.

\* **R. palustris** (Linnæus). Marsh-cress.

*N. palustre* De Candolle.

\* **R. Armoracia** (Linnæus). Horseradish.

#### BARBAREA R. Brown.

\* **B. Barbarea** (Linnæus). Common winter-cress.

*B. vulgaris* R. Brown.

† **B. præcox** (J. E. Smith). Scurvy-grass.

**HESPERIS** Linnaeus.

\* **H. matronalis** Linnaeus. Dame's rocket.

**ERYSIMUM** Linnaeus.

\* **E. cheiranthoides** Linnaeus. Worm-seed mustard.

**SISYMBRIUM** Linnaeus.

\* **C. officinale** (Linnaeus). Hedge-mustard.

† **S. altissimum** Linnaeus. Tall hedge-mustard.

**STENOPHRAGMA** Celakowsky.

\* **S. Thaliana** (Linnaeus). Mouse-ear cress.

*Sisymbrium Thalianum* Gay.

South Fayette Township, dry, stony point, R. R., west of Bridgeville, June 11, 1900.

**IODANTHUS** Torrey and Gray.

**THELYPODIUM** Endlicher.

\* **I. pinnatifidus** (Michaux). False rocket.

Patton Township, Wall's Station, Aug. 24, 1869, Rev. S. W. Knipe; June 10, 1891, Thomas Seal.

**BRASSICA** Linnaeus.

\* **B. nigra** (Linnaeus). Black mustard.

† **B. arvensis** (Linnaeus). Wild mustard.

\* **B. campestris** Linnaeus. Turnip.

Frequently persists for several years.

**BURSA** Weber.*CAPSELLA* Medicus.\* **B. Bursa-pastoris** (Linnaeus). Shepherd's purse.**LEPIDIUM** Linnaeus.\* **L. Virginicum** Linnaeus. Wild pepper-grass.\* **L. campestre** (Linnaeus). Field-cress.

Moon Township, Shafer farm, May 22, 1895.

Harrison Township, John Potts', near Natrona road, June, 1895.

**RAPHANUS** Linnaeus.† **R. Raphanistrum** Linnaeus. Wild radish.\* **R. sativus** Linnaeus. Garden radish.

Frequently persists for several years.

**CAPPARIDACEÆ** Lindley.

CAPER FAMILY. IV-33.

**CLEOME** Linnaeus.\* **C. spinosa** Linnaeus. Spider-flower.*C. pungens* Willdenow.

Esplin, bank of Ohio River, near P. &amp; L. E. R. R. station, September, 1898.

**CISTACEÆ** Lindley.

ROCKROSE FAMILY. IV-78.

**HELIANTHEMUM** Persoon.† **H. Canadense** (Linnaeus). Rock-rose.**LECHEA** Linnaeus.† **L. minor** Linnaeus. Thyme-leaved pin-weed.

\* *L. racemulosa* Michaux. Oblong-fruited pin-weed.

**VIOLACEÆ** De Candolle.

VIOLET FAMILY. IV-79.

**VIOLA** Linnæus.

† *V. pedata* Linnæus. Bird's-foot violet.

\* *V. palmata* Linnæus. Hand-leaved violet.

\* *V. obliqua* Hill. Meadow violet.

A white flowering form, near Perrysville, March 30, 1889, Dr. A. Ziegler.

† *V. villosa* Walter. Southern wood violet.

\* *V. domestica* Bicknell. Yard violet.

† *V. cucullata* Aiton. Marsh blue violet.

\* *V. communis* Pollard. Common blue violet.

\* *V. sagittata* Aiton. Arrow-leaved violet.

\* *V. ovata* Nuttall. Ovate-leaved violet.

\* *V. blanda* Willdenow. Sweet white violet.

§ *V. blanda amœna* (Le Conte). Swamp sweet violet.  
*V. blanda* var. *palustriformis* Gray.

\* *V. primulæfolia* Linnæus. Primrose-leaved violet.  
 Neville Township, head of island, July, 1898.

- \* **V. lanceolata** Linnæus. Lance-leaved violet.
- † **V. rotundifolia** Michaux. Round-leaved violet.
- \* **V. pubescens** Aiton. Hairy yellow violet.
- \* **V. scabriuscula** (Torrey and Gray). Smoothish yellow violet.
- § **V. hastata** Michaux. Halberd-leaved violet.
- \* **V. Canadensis** Linnæus. Canada violet.
- \* **V. striata** Aiton. Striped violet.
- † **V. Labradorica** Schrank. American dog violet.  
*V. canina* L. var. *Muhlenbergii* Trautvetter.
- \* **V. rostrata** Pursh. Long-spurred violet.

**CUBELIUM** Rafinesqué.

*SOLEA* Sprengel.

- \* **C. concolor** (Forster). Green violet.  
*S. concolor* Gingins de Lassaraz.

**CARYOPHYLLACEÆ** Reichenbach.

PINK FAMILY. IV-21.

**DIANTHUS** Linnæus.

- \* **D. Armeria** Linnæus. Deptford pink.  
Allegheny City, Riverview Park, July 14, 1894, Dr. W. R. Hamilton.

- \* **D. barbatus** Linnæus. Sweet-william.  
Moon Township, Shrode's Hollow, near Carnot, June, 1897.

**SAPONARIA** Linnæus.

- \* **S. officina** is Linnæus. Soapwort.

**SILENE** Linnæus.

- \* **S. stellata** (Linnæus). Starry campion.

- \* **S. alba** Muhlenberg. White campion.

*S. nivea* Otth.

- \* **S. vulgaris** (Mench.). Bladder-campion.

*S. Cucubalus* Wibel.

Penn Township, Doak farm, Sept. 21, 1899.

- \* **S. Caroliniana** Walter. Wild pink.

*S. Pennsylvanica* Michaux.

- \* **S. Virginica** Linnæus. Fire-pink.

- \* **S. antirrhina** Linnæus. Sleepy catchfly.

" Pittsburgh, May, 1886"; Prof. B. H. Patterson, A. V. R. R. track, June, 1900.

- \* **S. noctiflora** Linnæus. Night-flowering catchfly.

Moon Township, Miller's lane, west of Carnot, June 10, 1899.

- \* **S. Armeria** Linnæus. Sweet-william catchfly.

**LYCHNIS** Linnæus.

- \* **L. coronaria** (Linnæus). Mullein-pink.

Moon Township: escaped from old gardens; 1898.

**AGROSTEMMA** Linnæus.

- \* **A. Githago** Linnæus. Corn cockle.

*Lychnis Githago* Scopoli.

**ARENARIA** Linnaeus.

\* **A. serpyllifolia** Linnaeus. Thyme-leaved sandwort.  
Moon Township, Narrows Run, May, 1899.

**MŒHRINGIA** Linnaeus.

\* **M. lateriflora** (Linnaeus). Blunt-leaved sandwort.  
*Arenaria lateriflora* Linnaeus.

**ALSINE** Linnaeus.**STELLARIA** Linnaeus.

\* **A. media** Linnaeus. Common chickweed.

\* **A. pubera** (Michaux). Great chickweed.

\* **A. longifolia** (Muhlenberg). Long-leaved chickweed.

\* **A. longipes** (Goldie). Long-stalked chickweed.

? **A. uliginosa** (Murray). Marsh chickweed.

**CERASTIUM** Linnaeus.

\* **C. viscosum** Linnaeus. Mouse-ear chickweed.

\* **C. vulgatum** Linnaeus. Larger mouse-ear chickweed.

\* **C. longipedunculatum** Muhlenberg. Nodding chickweed.

\* **C. arvense** Linnaeus. Field chickweed.  
Pittsburgh, "in a lawn, Oakland, June 4, 1888"; Prof. B. H.  
Patterson.

**SPERGULA** Linnæus.

† **S. arvensis** Linnæus. Cornspurry.  
Allegheny, Highwood Cemetery, 1893; John Ferguson.

**ANYCHIA** Michaux.

\* **A. dichotoma** Michaux. Forked chickweed.

\* **A. Canadensis** (Linnæus). Slender forked chickweed.  
*A. capillacea* De Candolle.

**PORTULACACEÆ** Reichenbach.

## PURSLANE FAMILY. IV-20.

**PORTULACA** Linnæus.

\* **P. oleracea** Linnæus. Common purslane.

\* **P. grandiflora** Hooker. Portulaca.  
Occasionally spontaneous.

**CLAYTONIA** Linnæus.

\* **C. Virginica** Linnæus. Narrow springbeauty.

\* **C. Caroliniana** Michaux. Broad springbeauty.

**ELATINACEÆ** Lindley.

## WATERWORT FAMILY. IV-77.

**ELATINE** Linnæus.

**E. Americana** (Pursh). Mud-purslane.  
Probably overlooked on account of its minuteness.

**HYPERICACEÆ** Lindley.

## ST. JOHN'S-WORT FAMILY. IV-76.

**HYPERICUM** Linnæus.

§ **H. Ascyron** Linnaeus. Great St. John's-wort.

- \* **H. prolificum** Linnaeus. Shrubby St. John's-wort.
- \* **H. ellipticum** Hooker. Pale St. John's-wort.
- \* **H. perforatum** Linnaeus. Common St. John's-wort.
- \* **H. maculatum** Walter. Spotted St. John's-wort.
- \* **H. mutilum** Linnaeus. Dwarf St. John's-wort.
- † **H. Canadense** Linnaeus. Canadian St. John's-wort.

**SAROTHRA** Linnaeus.

- \* **S. gentianoides** Linnaeus. Orange-grass.  
*Hypericum nudicaule* Walter.

**TRIADENUM** Rafinesque.

*ELODEA* Pursh.

- \* **T. Virginicum** (Linnaeus). Marsh St. John's-wort.  
*E. campanulata* Pursh.  
Harrison Township, Joseph Johnston's, June, 1900.

**MALVACEÆ** Necker.

MALLOW FAMILY. IV-74.

**ALTHÆA** Linnaeus.

- \* **A. rosea** Cavanilles. Hollyhock.  
Sewickly, "ashery," foot of Walnut St., 1893.  
Harrison Township, field of Joseph Johnston, July, 1896.

**MALVA** Linnaeus.

- \* **M. rotundifolia** Linnaeus. Common mallow.

\* **M. sylvestris** Linnæus. High mallow.  
Pittsburgh, old gardens, 31st Ward, 1886.

|| **M. Moschata** Linnæus. Musk mallow.  
Harrison Township, Freeport road, near Wormley's barn, July, 1895.

**SIDA** Linnæus.

\* **S. spinosa** Linnæus. Prickly sida.

**ABUTILON** Gaertner.

\* **A. Abutilon** (Linnæus). Velvet-leaf.  
*A. Avicinnae* Gærtner.

**HIBISCUS** Linnæus.

\* **H. Trionum** Linnæus. Venice mallow.  
Harrison Township, Breckenridge's hillside, Natrona, July 25, 1895.  
Swissvale, August 19, 1900, John M. Milligan.

**TILIACEÆ** Jussieu.

LINDEN FAMILY. IV-73.

**TILIA** Linnæus.

\* **T. Americana** Linnæus. Bass-wood.

† **T. heterophylla** Ventenat. White bass-wood.

**LINACEÆ** Dumortier.

FLAX FAMILY. IV-52.

**LINUM** Linnæus.

\* **L. Virginianum** Linnæus. Wild yellow flax.

§ **L. striatum** Walter. Ridged yellow flax.

\* **L. usitatissimum** Linnaeus. Common flax.  
Spontaneous, especially along railroad tracks.

**GERANIACEÆ** J. St. Hilaire.

GERANIUM FAMILY. IV-50.

**GERANIUM** Linnaeus.

\* **G. maculatum** Linnaeus. Crane's-bill.

\* **G. Carolinianum** Linnaeus. Carolina crane's-bill.  
Pittsburgh, Stanton Ave., June 14, 1884.

\* **G. pusillum** Linnaeus. Small flowered crane's-bill.

**LIMNANTHACEÆ** Lindley.

FALSE MERMAID FAMILY. IV-61.

**FLØRKEA** Willdenow.

\* **F. proserpinacoides** Willdenow. False mermaid.

**OXALIDACEÆ** Lindley.

WOOD-SORREL FAMILY. 10-51.

**OXALIS** Linnaeus.

§ **O. Acetosella** Linnaeus. True wood-sorrel.

\* **O. violacea** Linnaeus. Violet wood-sorrel.

\* **O. corniculata** Linnaeus. Yellow procumbent wood-sorrel.  
A weed about greenhouses.

\* **O. stricta** Linnaeus. Upright yellow wood-sorrel.

† *O. cymosa* Small. Tall yellow sorrel.

\* *O. grandis* Small. Great yellow wood-sorrel.

*O. recurva* Trelease, not Elliott.

### BALSAMINACEÆ Lindley.

#### JEWEL-WEED FAMILY.

##### IMPATIENS Linnæus.

\* *I. aurea* Muhlenberg. Pale touch-me-not.

*I. pallida* Nuttall.

\* *I. biflora* Walt. Spotted touch-me-not.

*I. fulva* Nuttall.

### RUTACEÆ Jussieu.

#### RUE FAMILY. IV-54.

##### XANTHOXYLUM Linnæus.

\* *X. Americanum* Miller. Prickly ash.

Moon Township, roadside, Mrs. Eliot's, on Flaugherty Run.

Findlay Township, Chas. Hood's, May, 1897.

### SIMARUBACEÆ De Candolle.

#### AILANTHUS FAMILY. IV-53.

##### AILANTHUS Desfontaine.

\* *A. glandulosa* Desfontaine. Ailanthus.

Spontaneous in and about most towns.

### ILICACEÆ Lowe.

#### HOLLY FAMILY. IV-64.

##### ILEX Linnæus.

§ *I. monticola mollis* (A. Gray). Broad-leaved holly.

† *I. verticillata* (Linnaeus). Black alder.

\* *I. laevigata* (Pursh). Smooth winter-berry.

Robinson Township, swamp near Groveton Station, October, 1888.

**CELASTRACEÆ** Lindley.

STAFF-TREE FAMILY. IV-65.

**CELASTRUS** Linnaeus.

\* *C. scandens* Linnaeus. False bittersweet.

**EUONYMUS** Linnaeus.

\* *E. atropurpureus* Jacquin. Wahoo.

**RHAMNACEÆ** Dumortier.

BUCKTHORN FAMILY. IV-71.

**CEANOTHUS** Linnaeus.

\* *C. Americanus* Linnaeus. New Jersey tea.

**VITACEÆ** Lindley.

GRAPE FAMILY. IV-72.

**VITIS** Linnaeus.

§ *V. Labrusca* Linnaeus. Fox-grape.

\* *V. æstivalis* Michaux. Summer grape.

\* *V. cordifolia* Michaux. Frost grape.

\* *V. vulpina* Linnaeus. Riverside grape.

*V. riparia* Michaux.

† *V. rupestris* Scheele. Sand grape.

**PARTHENOCISSUS** Planchon.*AMPELOPSIS* Michaux.\* **P. quinquefolia** (Linnaeus). Virginia creeper.**HIPPOCASTANACEÆ** Torrey and Gray.

BUCKEYE FAMILY. IV-68.

**ÆSCULUS** Linnaeus.\* **Æ. glabra** Willdenow. Ohio buckeye.

Forward Township, in a clearing near Gamble's P. O., June 1886.

\* **Æ. octandra** Marshall. Sweet buckeye.*Æ. flava* Aiton.**ACERACEÆ** St. Hilaire.

MAPLE FAMILY. IV-67.

**ACER** Linnaeus.§ **A. Pennsylvanicum** Linnaeus. Striped maple.\* **A. spicatum** Lambert. Mountain-maple.\* **A. Saccharum** Marshall. Rock- or sugar-maple.\* **A. nigrum** Michaux. Black sugar-maple.\* **A. saccharinum** Linnaeus. Silver maple.*A. dasycarpum* Ehrhart.\* **A. rubrum** Linnaeus. Red, or swamp maple.

With us this tree grows on rocky hillsides, seldom in lowlands.

§ **A. Negundo** Linnaeus. Ash-leaved maple.

**STAPHYLEACEÆ** De Candolle.

BLADDER-NUT FAMILY. IV-66.

**STAPHYLEA** Linnæus.\* **S. trifolia** Linnæus. American bladder-nut.**ANACARDIACEÆ** Lindley.

SUMAC FAMILY. IV-62.

**RHUS** Linnæus.\* **R. hirta** (Linnæus). Staghorn sumac.*R. typhina* Linnæus.\* **R. glabra** Linnæus. Smooth sumac.\* **R. copallina** Linnæus. Dwarf sumac.\* **R. Vernix** Linnæus. Poison sumac.*R. venenata* De Candolle.O'Hara Township, Swamp by W. P. R. R., near Allegheny City  
Poor Farm, Nov., 1899.\* **R. radicans** Linnæus. Poison ivy.† **R. aromatica** Aiton. Fragrant sumac.**POLYGALACEÆ** Reichenbach.

MILKWORT FAMILY. IV-56.

**POLYGALA** Linnæus.† **P. paucifolia** Willdenow. Fringed milkwort.† **P. polycarpa** Walter. Racemed milkwort.† **P. Senega** Linnæus. Seneca snakeroot.

\* **P. viridescens** Linnæus. Purple milkwort.

*P. sanguinea* Linnæus.

\* **P. verticillata** Linnæus. Whorled milkwort.

\* **P. ambigua** Nuttall. Loose-spiked milkwort.

### PAPILIONACEÆ Linnæus.

PEA FAMILY. IV-49.

**BAPTISIA** Ventenat.

§ **B. tinctoria** Ventenat. Yellow wild indigo.

\* **B. australis** (Linnæus). Blue wild indigo.

### CYTISUS Linnæus.

\* **C. scoparius** (Linnæus). Scotch broom.

Sterrett Township, P. R. R. embankment west of Swissvale, June 19, 1889; C. C. Mellor.

### LUPINUS Linnæus.

† **L. perennis** Linnæus. Wild lupine.

### TRIFOLIUM Linnæus.

\* **T. incarnatum** Linnæus. Crimson clover.

\* **T. arvense** Linnæus. Rabbit-foot clover.

Moon Township, dry woods near Sharon church, Sept., 1888-89. Allegheny, Highwood Cemetery, July, 1896; John Ferguson.

\* **T. pratense** Linnæus. Red clover.

\* **T. reflexum** Linnæus. Buffalo clover.

Bellevue, "hillside, Ohio River, near Jack's Run, July, 1869"; Rev. S. W. Knipe.

Sewickley Township, branch of Turkey Foot Run, July, 1886.

† **T. stoloniferum** Muhlenberg. Running buffalo clover.

\* **T. repens** Linnaeus. White clover.

\* **T. hybridum** Linnaeus. Alsike clover.

\* **T. agrarium** Linnaeus. Hop-clover.  
 Chartiers Township, near Ingram Station, July, 1886; Alfred Stengle.  
 Patton Township, high dry hill, east of Pitcairn Station, August 15, 1900.

§ **T. procumbens** Linnaeus. Low hop-clover.

**MELILOTUS** Jussieu.

\* **M. officinalis** (Linnaeus). Yellow sweet-clover.

\* **M. alba** Desvaux. White sweet-clover.

**MEDICAGO** Linnaeus.

\* **M. sativa** Linnaeus. Alfalfa.

\* **M. lupulina** Linnaeus. Hop medic.

**CRACCA** Linnaeus.

*TEPHROSIA* Persoon.

\* **C. Virginiana** Linnaeus. Goat's-rue.

**ROBINIA** Linnaeus.

\* **R. Pseudacacia** Linnaeus. Locust-tree.

\* **R. hispida** Linnaeus. Rose acacia.  
 Tarentum, roadside, escaped from garden, August, 1900.

## ASTRAGALUS Linnæus.

\* **A. Carolinianus** Linnæus. Milk vetch.

*A. Canadensis* Linnæus.

Moon Township, Thorn Run road, near A. Brown's, July, 1895.

## MEIBOMIA Adanson.

## DESMODIUM Desvaux.

\* **M. nudiflora** Linnæus. Naked-flowered tick-trefoil.

† **M. grandiflora** Walter. Pointed-leaved tick-trefoil.

*D. acuminatum* De Candolle.

† **M. pauciflora** (Nuttall). Few-flowered tick-trefoil.

\* **M. Michauxii** Vail. Prostrate tick-trefoil.

*D. rotundifolium* De Candolle.

\* **M. canescens** (Linnæus). Hoary tick-trefoil.

† **M. bracteosa** (Michaux). Large-leaved tick-trefoil.

*D. cuspidatum* Hooker.

† **M. viridiflora** (Linnæus). Velvet-leaved tick-trefoil.

† **M. Dillenii** (Darlington). Dillen's tick-trefoil.

\* **M. paniculata** (Linnæus). Panicled tick-trefoil.

† **M. Canadensis** (Linnæus). Showy tick-trefoil.

† **M. rigida** (Elliott). Rigid tick-trefoil.

## LESPEDEZA Michaux.

\* **L. repens** (Linnæus). Creeping bush-clover.

† **L. procumbens** Michaux. Trailing bush-clover.

\* **L. violacea** (Linnæus). Bush-clover.

\* **L. Virginica** (Linnæus). Slender bush-clover.

*L. reticulata* Persoon.

\* **L. hirta** (Linnæus). Hairy bush-clover.

*L. polystachya* Michaux.

\* **L. capitata** Michaux. Round-headed bush-clover.

Robinson Township, near Groveton Station, Oct. 10, 1899.

### STYLOSANTHES Swartz.

§ **S. biflora** (Linnæus). Pencil-flower.

*S. elatior* Swartz.

### VICIA Linnæus.

\* **V. sativa** Linnæus. Common vetch.

† **V. Cracca** Linnæus. Tufted vetch.

\* **V. Caroliniana** Walter. Carolina vetch.

† **V. Americana** Muhlenberg. American vetch.

### LATHYRUS Linnæus.

† **L. palustris** Linnæus. Marsh vetchling.

### APIOS Mœnch.

\* **A. Apios** (Linnæus). Ground-nut.

*A. tuberosa* Mœnch.

**FALCATA** Gmelin.*AMPHICARPA* Elliott.\* **F. comosa** (Linnæus). Wild pea-nut.*A. monoica* Nuttall.\* **F. Pitcheri** (Torrey & Gray). Pitcher's hog-nut.**CÆSALPINACEÆ** Klotsch & Garcke.

SENNA FAMILY. IV-47.

**CERCIS** Linnæus.\* **C. Canadensis** Linnæus. Red-bud.**CASSIA** Linnæus.\* **C. Marylandica** Linnæus. Wild senna.\* **C. Chamæcrista** Linnæus. Partridge pea.\* **C. nictitans** Linnæus. Wild sensitive-plant.**GYMNOCLADUS** Lamarck.† **G. dioica** (Linnæus). Kentucky coffee-tree.*G. Canadensis* Lamarck.**GLEBITSIA** Linnæus.\* **G. triacanthos** Linnæus. Honey-locust.**DRUPACEAÆ** De Candolle.

PLUM FAMILY. IV-45.

**PRUNUS** Linnæus.\* **P. Americana** Marshall. Wild plum.\* **P. domestica** Linnæus. Garden plum.

\* **P. pumila** Linnaeus. Sand cherry.

† **P. Pennsylvanica** (Linné). Wild red cherry.

\* **P. Virginiana** Linnaeus. Choke cherry.

† **P. demissa** (Nuttall). Western wild cherry.

\* **P. serotina** Ehrhart. Wild black cherry.

\* **P. Cerasus** Linnaeus. Sour cherry.

\* **P. Avium** Linnaeus. Sweet cherry.

\* **P. Padus** Linnaeus. European bird cherry.

Pittsburgh, spontaneous on the Southside hills, 32d Ward.

### AMYGDALUS Linnaeus.

\* **A. Persica** Linnaeus. Peach.

Spontaneous throughout the county.

### ROSACEÆ B. Jussieu.

ROSE FAMILY. IV-43.

#### SPIRÆA Linnaeus.

\* **S. salicifolia** Linnaeus. Willow-leaved meadow-sweet.

\* **S. tomentosa** Linnaeus. Hardhack.

Harrison Township, wet roadside, John Potts', June, 1895.

\* **S. sorbifolia** Linnaeus. Ash-leaved spiræa.

Moon Township, escaped to roadsides, Narrows Run, June, 1897.

\* **S. Virginiana** Britton. Virginia spirea.

O'Hara Township, head of Darlington's Hollow, July 7, 1900;  
W. N. Miller.

### ARUNCUS Adanson.

\* **A. Aruncus** (Linnaeus). Goat's-beard.

*Spirea Aruncus* Linnæus.

### ULMARIA Hill.

† **U. rubra** Hill. Queen of the prairie.

*Spirea lobata* Gronovius.

### OPULASTER Medicus.

*PHYSOCARPUS* Maximowicz.

\* **O. opulifolius** (Linnæus). Ninebark.

*P. opulifolius* Maximowicz.

### PORTERANTHUS Britton.

*GILLENSIA* Mœnch.

\* **P. trifoliatus** (Linnæus). Indian physic.

*G. trifoliata* Mœnch.

\* **P. stipulatus** (Muhlenberg). American ipecac.

*G. stipulacea* Mœnch.

Moon Township, woods, McKee property, June, 1898.

### RUBUS Linnæus.

\* **R. odoratus** Linnæus. Thimble-berry.

\* **R. strigosus** Michaux. Wild red raspberry.

Tarentum, foot of island, July, 1900.

\* **R. occidentalis** Linnæus. Black raspberry.

A yellow-fruited variety occurs in Moon Township, near Carnot.

\* **R. Americanus** (Persoon). Dwarf raspberry.

*R. triflorus* Richards.

\* **R. villosus** Aiton. High bush blackberry.

§ **R. Alleghaniensis** Porter. Mountain blackberry.

\* **R. hispida** Linnaeus. Running swamp blackberry.

Harrison Township, swamp below Joseph Johnston's house, July, 1897.

\* **R. Canadensis** Linnaeus. Dewberry.

**DALIBARDA** Linnaeus.

† **D. repens** Linnaeus. Dalibarda.

**GEUM** Linnaeus.

\* **G. Canadense** Jacquin. White avens.

*G. album* Gmelin.

† **G. Virginianum** Linnaeus. Rough avens.

\* **G. strictum** Aiton. Yellow avens.

Hampton Township, ditches, P. & W. R. R., north of Semple Station, Aug. 10th, 1900.

\* **G. vernum** (Rafinesque). Spring avens.

**WALDSTEINIA** Willdenow.

\* **W. fragarioides** (Michaux). Barren strawberry.

**FRAGARIA** Linnaeus.

† **F. Virginiana** Duchesne. Scarlet strawberry.

† **F. vesca** Linnaeus. European wood strawberry.

\* **F. Americana** (Porter). American wood strawberry.

A form with "white" fruit from Moon Township seems to belong here.

**POTENTILLA** Linnaeus.

\* **P. arguta** Pursh. Tall cinquefoil.

Robison Township, near Groveton, July 20, 1898.

Moon Township, Barns' Farm, near Stoop's Ferry, August, 1899.

\* **P. Monspeliensis** Linnaeus. Rough cinquefoil.

*P. Norvegica* Linnaeus.

† **P. intermedia** Linnaeus. Downy cinquefoil.

\* **P. recta** Linnaeus. Rough fruited cinquefoil.

Allegheny, Campus Western University of Pennsylvania, August, 1900.

\* **P. Canadensis** Linnaeus. Five-finger.

\* **P. pumila** Poiret. Dwarf five-finger.

**AGRIMONIA** Linnaeus.

\* **A. hirsuta** Muhlenberg. Common agrimony.

*A. Eupatoria* Linnaeus.

\* **A. parviflora** Solander. Small-flowered agrimony.

**SANGUISORBA** Linnaeus.

*POTERIUM* Linnaeus.

\* **S. Canadensis** Linnaeus. Canadian burnet.

Harrison Township, Little Bull Creek, near Tarentum "Water-works," August 30, 1892, Dr. A. Koenig. August, 1896, J. A. Shafer.

**ROSA** Linnaeus.

\* **R. setigera** Michaux. Climbing rose.  
 Harrison Township, McWilliams' Hollow, July, 1895.  
 O'Hara Township, roadside east of Aspinwall, June, 1900.

? **R. blanda** Aiton. Smooth rose.

\* **R. Carolina** Linnaeus. Swamp rose.

\* **R. humilis** Marshall. Low pasture rose.

\* **R. humilis lucida** (Ehrhart). Pasture rose.  
*R. lucida* Ehrhart.

† **R. canina** Linnaeus. Dog rose.

\* **R. rubiginosa** Linnaeus. Sweetbrier.

**POMACEÆ** Linnaeus.

## APPLE FAMILY. IV-44.

**PYRUS** Linnaeus.

\* **P. communis** Linnaeus. Choke-pear.  
 Occasionally in margin of woods, Moon Township, etc.

**MALUS** Jussieu.*PYRUS* Linnaeus.

\* **M. coronaria** (Linnaeus). American crab-apple.

\* **M. angustifolia** (Aiton). Narrow leaved crab-apple.  
 South Fayette, near Herriottsville, May, 1871, May 15, 1900.  
 Rev. S. W. Knipe.

\* **M. Malus** (Linnaeus). Apple.  
 Frequently escaped to woods and thickets.

**SORBUS** Linnaeus.*PYRUS* Linnaeus.

\* **S. sambucifolia** Chamisso & Schlechtendahl. Western mountain-ash.

Pittsburgh, 18th Ward, rear of cemetery, June, 1885.  
 " Haight's Run, July, 1899.

**ARONIA** Linnaeus.*PYRUS* Linnaeus.

\* **A. nigra** (Willdenow). Black choke-berry.

Harrison Township, "Bird's Hollow," near Natrona, June, 1895.

**CRATÆGUS** Linnaeus.

\* **C. Oxyacantha** Linnaeus. English hawthorn.

† **C. coccinea** Linnaeus. Scarlet haw.

† **C. macrantha** Loddiges. Long-spined thorn.

\* **C. mollis** (Torrey & Gray). Red-fruited haw.

\* **C. tomentosa** Linnaeus. Pear haw.

\* **C. punctata** Jacquin. Large-fruited haw.

\* **C. Crus-Galli** Linnaeus. Cockspur thorn.

**AMELANCHIER** Medicus.

\* **A. Canadensis** (Linnaeus). Service-berry.

\* **A. Botryapium** (Linné). Shad-bush.

\* **A. spicata** (Lamarck). Low June-berry.  
 Allegheny, Highwood Cemetery, on rocky hill, May, 1898, John Ferguson.

**SAXIFRAGACEÆ** Dumortier.

## SAXIFRAGE FAMILY. IV-39.

**SAXIFRAGA** Linnaeus.

\* **S. Virginiensis** Michaux. Early saxifrage.

\* **S. Pennsylvanica** Linnaeus. Swamp saxifrage.

Pine Township, swamp west of Wexford. June, 1896.

**TIARELLA** Linnaeus.

\* **T. cordifolia** Linnaeus. Coolwort.

Pittsburgh, "Homewood Hollow," May, 1896.

**HEUCHERA** Linnaeus.

\* **H. Americana** Linnaeus. Alum-root.

**MITELLA** Tournefort.

\* **M. diphylla** Linnaeus. Mitrewort.

**CHrysosplenium** Linnaeus.

\* **C. Americanum** Schweinitz. Water carpet.

Harrison Township, borders of Little Bull Creek, May 3, 1893,  
Dr. Adolph Koenig; May, 1900, J. A. Shafer.

**HYDRANGEA** Linnaeus.

\* **H. arborescens** Linnaeus. Wild hydrangea.

**PHILADELPHUS** Linnaeus.

\* **P. coronarius** Linnaeus. Mock orange.

Occasionally escaped from gardens.

**GROSSULARIACEÆ** Dumortier.

GOOSEBERRY FAMILY. IV-40.

**RIBES** Linnæus.\* **R. Cynosbati** Linnæus. Wild gooseberry.† **R. oxyacanthoides** Linnæus. Northern gooseberry.\* **R. Uva-crispa** Linnæus. Garden gooseberry.*R. Grossularia* Linnæus.

Occasionally escaped.

\* **R. floridum** L'Heritier. Wild black currant.\* **R. rubrum** Linnæus. Red currant.

Occasionally escaped.

**CRASSULACEÆ** De Candolle.

ORPINE FAMILY. IV-38.

**SEDUM** Linnæus.|| **S. Telephium** Linnæus. Live-forever.

Moon Township, roadside west of Carnot.

† **S. acre** Linnæus. Yellow stonecrop.\* **S. ternatum** Michaux. Wild stonecrop.**PENTHORUM** Linnæus.\* **P. sedoides** Linnæus. Ditch stonecrop.**DROSERACEÆ** S. F. Gray.

SUNDEW FAMILY. IV-36.

**DROSERA** Linnæus.§ **D. rotundifolia** Linnæus. Round-leaved sundew.

**HAMAMELIDACEÆ** Lindley.

WITCH-HAZEL FAMILY. IV-41.

**HAMAMELIS** Linnæus.\* **H. Virginiana** Linnæus. Witch-hazel.**HALORAGIDACEÆ** Klotsch & Gärcke.

WATER-MILFOIL FAMILY. IV-89.

**MYRIOPHYLLUM** Linnæus.† **M. verticillatum** Michaux. Water-milfoil.**LYTHRACEÆ** Lindley.

LOOSESTRIFE FAMILY. IV-85.

**LYTHRUM** Linnæus.\* **L. alatum** Pursh. Winged loosestrife.

East Deer Township, Kennedy Station, July, 1890, Dr. Adolph Koenig.

Hampton Township, bottom of old milldam, Semple Station, August 10, 1900.

\* **L. Salicaria** Linnæus. Purple loosestrife.

Allegheny, Highwood Cemetery, escaped: John Ferguson.

**PARSONSIA** Patrick Browne.**CUPHEA** Patrick Browne.\* **P. petiolata** (Linnæus). Clammy cuphea.*C. viscosissima* Jacquin.**ONAGRACEÆ** Dumortier.

EVENING-PRIMROSE FAMILY. IV-87.

**LUDWIGIA** Linnæus.\* **L. alternifolia** Linnæus. Seed-box.

**ISNARDIA** Linnæus.*LUDwigia* Linnæus.

\* **I. palustris** Linnæus. Water-purslane.

**EPILOBIUM** Linnæus.

\* **E. coloratum** Muhlenberg. Purple-leaved willow-herb.

**CHAMÆNERION** Adanson.

\* **C. angustifolium** (Linnæus). Great willow-herb.

**ONAGRA** Adanson.*ENOTHERA* Linnæus.

\* **O. biennis** (Linnæus). Evening-primrose.

**KNEIFFIA** Spach.*ENOTHERA* Linnæus.

\* **K. pumila** (Linnæus). Small sun-drops.

\* **K. fruticosa** (Linnæus). Sun-drops.

**GAURA** Linnæus.

\* **G. biennis** Linnæus. Biennial gaura.

McKees Rocks, near the Indian Mound, August, 1896. C. C. Mellor.

**CIRCÆA** Linnæus.

\* **C. Lutetiana** Linnæus. Enchanter's nightshade.

§ **C. alpina** Linnæus. Smaller enchanter's nightshade.

**PASSIFLORACEÆ** Dumortier.

PASSION-FLOWER FAMILY. IV-80.

**PASSIFLORA** Linnæus.

\* **P. lutea** Linnæus. Yellow passion-flower.

**UMBELLIFERÆ** B. Jussieu.

CARROT FAMILY. IV-91.

**DAUCUS** Linnæus.\* **D. Carota** Linnæus. Wild carrot.**ANGELICA** Linnæus.\* **A. villosa** (Walter). Pubescent angelica.*A. hirsuta* Muhlenberg.**OXYPOLIS** Rafinesque.*TIEDEMANIA* De Candolle.§ **O. rigidus** (Linnæus). Cow-bane.**HERACLEUM** Linnæus.\* **H. lanatum** Michaux. Cow-parsnip.**PASTINACA** Linnæus.\* **P. sativa** Linnæus. Wild parsnip.**THASPIUM** Nuttall.\* **T. barbinode** (Michaux). Hairy-jointed meadow-parsnip.

Pittsburgh, hillside above Salt-works Station, June 17, 1898.

**FœNICULUM** Adanson.\* **F. Fœniculum** (Linnæus). Fennel.*F. officinale* Allioni.

O'Hara Township, W. P. R. R. embankment near Squaw Run, July, 1900.

**ANETHRUM** Linnæus.\* **A. graveolens** Linnæus.

Moon Township, roadside, Narrows Run, July, 1889.

**PIMPINELLA** Linnæus.

- \* **P. integerrima** (Linnæus). Yellow pimpernel.

**DERINGA** Adanson.*CRYPTOTENIA* De Candolle.

- \* **D. Canadensis** (Linnæus). Honewort.

**SIUM** Linnæus.

- † **S. cicutæfolium** Gmelin. Water-parsnip.

**ZIZIA** Koch.

- \* **Z. aurea** (Linnæus). Golden meadow-parsnip.

- \* **Z. cordata** (Walter). Heart-leaved Alexanders.

**CICUTA** Linnæus.

- \* **C. maculata** Linnæus. Spotted water-hemlock.

**CONIUM** Linnæus.

- \* **C. maculatum** Linnæus. Poison hemlock.

**CHÆROPHYLLUM** Linnæus.

- \* **C. procumbens** (Linnæus). Spreading chervil.

O'Hara Township, woods below railroad, near Aspinwall, May, 1900.

**WASHINGTONIA** Rafinesque.*OSMORRHIZA* Rafinesque.

- \* **W. Claytoni** (Michaux). Woolly sweet-cicely.  
*O. brevistylis* De Candolle.

- \* **W. longistylis** (Torrey). Sweet-cicely.

**ERIGENIA** Nuttall.

§ **E. bulbosa** (Michaux). Harbinger of spring.

**HYDROCOTYLE** Linnaeus.

\* **H. Americana** Linnaeus. Marsh-pennywort.

Sterrett Township, near Edgewood, May, 1886, C. C. Mellor.

**SANICULA** Linnaeus.

\* **S. Marylandica** Linnaeus. Black sanicle.

\* **S. Canadensis** Linnaeus. Short-styled sanicle.

**ARALIACEÆ** Ventenat.

GINSENG FAMILY. IV-90.

**ARALIA** Linnaeus.

\* **A. spinosa** Linnaeus. Angelica tree.

\* **A. racemosa** Linnaeus. Spikenard.

\* **A. nudicaulis** Linnaeus. Wild sarsaparilla.

**PANAX** Linnaeus.

\* **P. quinquefolium** Linnaeus. Ginseng.

§ **P. trifolium** Linnaeus. Dwarf ginseng.

**CORNACEÆ** Link.

DOG-WOOD FAMILY. IV-92.

**CORNUS** Linnaeus.

\* **C. florida** Linnaeus. Flowering dog-wood.

† **C. circinata** L'Heritier. Round-leaved cornel.

\* **C. Amonum** Miller. Silky cornel.

*C. sericea* Linnaeus.

\* **C. stolonifera** Michaux. Red-osier cornel.

\* **C. candidissima** Marshall. Paniced cornel.

*C. paniculata* L'Heritier.

### NYSSA Linnæus.

\* **N. sylvatica** Marshall. Sour gum.

### CAPRIFOLIACEÆ Ventenat.

HONEYSUCKLE FAMILY. V-35.

#### SAMBUCUS Linnæus.

\* **S. Canadensis** Linnæus. American elder.

\* **S. pubens** Michaux. Red-berried elder.

### VIBURNUM Linnæus.

§ **V. alnifolium** Marshall. Hobble-bush.

*V. lantanoides* Michaux.

\* **V. acerifolium** Linnæus. Maple-leaved arrow-wood.

\* **V. pubescens** (Aiton). Downy arrow-wood.

Pittsburgh, Butler street, beyond Morningside Road, June, 1884.

§ **V. dentatum** Linnæus. Arrow-wood.

\* **V. Lentago** Linnæus. Sweet viburnum.

Fawn Township, Little Bull Creek, at branch to Donaldville, June, 1896.

\* **V. prunifolium** Linnæus. Black haw.

**TRIOSTEUM** Linnæus.

\* **T. perfoliatum** Linnæus. Horse-gentian.

**SYMPHORICARPOS** Jussieu.

\* **S. racemosus** Michaux. Snowberry.

Only as an escaped species with us.

\* **S. Symphoricarpos** (Linnæus). Coral-berry.

*S. vulgaris* Michaux.

Escaped from old gardens.

**LONICERA** Linnæus.

\* **L. glaucescens** Rydberg. Douglas' honeysuckle.

Moon Township, Wm. Tomlinson's woods, May, 1897.

\* **L. sempervirens** Linnæus. Trumpet honeysuckle.

Harrison Township, McWilliams' Hollow, near Natrona, June, 1895.

\* **L. Japonica** Thunberg. Japanese honeysuckle.

Occasionally escaped.

\* **L. ciliata** Muhlenberg. American fly-honeysuckle.

Shaler Township, near P. and W. R. R. tunnel, May, 1886.

**DIERVILLA** Mœnch.

\* **D. Diervilla** (Linnæus). Bush honeysuckle.

*D. trifida* Mœnch.

Hulton, "on river bank, 1888," Dr. Adolph Koenig.

**RUBIACEÆ** B. Jussieu.

MADDER FAMILY. V-34.

**HOUSTONIA** Linnæus.

\* **H. cœrulea** Linnæus. Bluets.

\* **H. ciliolata** Torrey. Fringed houstonia.

North Versailles Township, near Wall's Station, July, 1869; Rev. S. W. Knipe.

North Versailles Township, near Wall's Station, May 10, 1891; Thos. Seal.

\* **H. longifolia** Gaertner. Long-leaved houstonia.

Sewickley Township, dry hills, Turkey-foot Run, June, 1885.

Moon Township, T. A. Shafer farm, June, 1886.

### CEPHALANTHUS Linnæus.

\* **C. occidentalis** Linnæus. Button-bush.

### MITCHELLA Linnæus.

\* **M. repens** Linnæus. Partridge-berry.

### GALIUM Linnæus.

† **G. Aparine** Linnæus. Cleavers.

\* **G. pilosum** Aiton. Hairy bedstraw.

\* **G. lanceolatum** Torrey. Torrey's wild licorice.

\* **G. circæzans** Michaux. Wild licorice.

\* **G. boreale** Linnæus. Northern bedstraw.

† **G. trifidum** Linnæus. Small bedstraw.

† **G. concinnum** Torrey & Gray. Shining bedstraw.

† **G. triflorum** Michaux. Fragrant bedstraw.

**VALERIANACEÆ** Batsch.

## VALERIAN FAMILY. V-37.

**VALERIANA** Linnæus.

\* **V. pauciflora** Michaux. Large-flowered valerian.

\* **V. officinalis** Linnæus. Garden valerian.

Sterrett Township, woods near Edgewood, July, 1897, C. C. Mellor.

**VALERIANELLA** Pollich.

\* **V. Locusta** (Linnæus). European corn-salad.

*V. olitoria* Pollich.

\* **V. chenopodifolia** (Pursh). Goose-foot corn-salad.

*V. fagopyrum* Torrey & Gray.

South Fayette Township, near Herriottsville, May, 1871, and May 15, 1900, Rev. S. W. Knipe.

\* **V. radiata** (Linnæus). Beaked corn-salad.

O'Hara Township, Squaw Run, June, 1900.

**DIPSACACEÆ** Lindley.

## TEASEL FAMILY. V-38.

**DIPSACUS** Linnæus.

\* **D. sylvestris** Hudson. Wild teasel.

**CUCURBITACEÆ** B. Jussieu.

## GOURD FAMILY. V-39.

**SICYOS** Linnæus.

\* **S. angulatus** Linnæus. One-seeded bur-cucumber.

**MICRAMPHELIS** Rafinesque.*ECHINOCYSTIS* Torrey & Gray.

\* **M. lobata** (Michaux). Wild balsam-apple.

**COMPOSITÆ** Adanson.

## THISTLE FAMILY. V-43.

**VERNONIA** Schreber.

\* **V. Noveboracensis** (Linnæus). New York iron-weed.

† **V. gigantea** (Walter). Tall iron-weed.

**EUPATORIUM** Linnæus.

\* **E. maculatum** Linnæus. Spotted Joe-Pye weed.

† **E. purpureum** Linnæus. Purple boneset.

\* **E. Torreyanum** Short. Torrey's boneset.

Fawn Township, Pine Hill, July, 1900.

\* **E. sessilifolium** Linnæus. Upland boneset.

† **E. rotundifolium** Linnæus. Round-leaved thoroughwort.

\* **E. perfoliatum** Linnæus. Boneset.

\* **E. ageratoides** (Linné). White snake-root.

† **E. aromaticum** Linnæus. Smaller white snake-root.

\* **E. cœlestinum** Linnæus. Mist-flower.

**LACINARIA** Hill.*LATRIS* Schreber.† **L. squarrosa** (Linnæus). Colic-root.**SOLIDAGO** Linnæus.\* **S. squarrosa** Muhlenberg. Stout ragged golden-rod.\* **S. cæsia** Linnæus. Woodland golden-rod.\* **S. flexicaulis** Linnæus. Zig-zag golden-rod.*S. latifolia* Linnæus.\* **S. bicolor** Linnæus. Silver-rod.\* **S. rugosa** Miller. Wrinkled golden-rod.\* **S. patula** Muhlenberg. Spreading golden-rod.

Avalon, branch of Spruce Run, near stone bridge, September, 1896, James Semple.

O'Hara Township, swamp near Allegheny City Poor Farm, October, 1899.

\* **S. ulmifolia** Muhlenberg. Elm-leaved golden-rod.† **S. neglecta** Torrey & Gray. Swamp golden-rod.\* **S. juncea** Aiton. Early golden-rod.† **S. arguta** Aiton. Cut-leaved golden-rod.† **S. rupestris** Rafinesque. Rock golden-rod.\* **S. serotina** Aiton. Late golden-rod.

† **S. serotina gigantea** (Aiton). Tall late golden-rod.

\* **S. Canadensis** Linnæus. Canada golden-rod.

\* **S. nemoralis** Aiton. Field golden-rod.

### EUTHAMIA Nuttall.

*SOLIDAGO* Linnæus.

\* **E. graminifolia** (Linnæus). Bushy golden-rod.  
*S. lanceolata* Linnæus.

### SERIOCARPUS Nees.

\* **S. asteroides** (Linnæus). White-topped aster.  
*S. conyzoides* Nees.

### ASTER Linnæus.

\* **A. divaricatus** Linnæus. White wood aster.  
*A. corymbosus* Aiton.

\* **A. glomeratus** (Nees). Bernhardi's aster.

\* **A. macrophyllus** Linnæus. Large-leaved aster.

\* **A. Shortiooker.** Short's aster.

\* **A. azureus** Lindley. Sky-blue aster.

\* **A. cordifolius** Linnæus. Common blue aster.

\* **A. Lowrieanus** Porter. Lowrie's aster.

\* **A. sagittifolius** Willdenow. Arrow-leaved aster.

\* **A. undulatus** Linnæus. Wavy leaved aster.

- \* **A. patens** Aiton. Late purple aster.
- † **A. phlogifolius** Muhlenberg. Thin-leaved purple aster.
- \* **A. Novæ-Angliæ** Linnaeus. New England aster.
- \* **A. oblongifolius** Nuttall. Aromatic aster.
- † **A. amethystinus** Nuttall. Amethyst aster.
- \* **A. puniceus** Linnaeus. Red-stalked aster.
- \* **A. prenanthoides** Muhlenberg. Crooked-stemmed aster.
- \* **A. lævis** Linnaeus. Smooth aster.
- \* **A. dumosus** Linnaeus. Bushy aster.
- \* **A. salicifolius** Aiton. Willow aster.
- \* **A. paniculatus** Lamarck. Tall white aster.
- \* **A. Tradescanti** Linnaeus. Michaelmas daisy.
- \* **A. ericoides** Linnaeus. White heath aster.
- \* **A. lateriflorus** (Linnaeus). Starved aster.  
*A. diffusus* Aiton.
- \* **A. hirsuticaulis** Lindley. Hairy-stemmed aster.  
McCandless Township, Perrysville Road, October, 1896.
- \* **A. vimineus** Lamarck. Small white aster.

\* **A. multiflorus** Aiton. White wreath aster.

**DŒLLINGERIA** Nees.

*ASTER* Linnæus.

\* **D. umbellata** (Miller). Flat-top aster.

Springdale Township, near Robert Stewart's, September, 1896.

\* **D. infirma** (Michaux). Cornel-leaved aster.

**IONACTIS** Greene.

*ASTER* Linnæus.

§ **I. linariifolius** (Linnæus). Stiff-leaved aster.

**ERIGERON** Linnæus.

\* **E. annuus** Linnæus White-top.

\* **E. ramosus** (Walter). Daisy fleabane.

*E. strigosus* Muhlenberg.

\* **E. pulchellus** Michaux. Robin's plantain.

*E. bellidifolius* Muhlenberg.

\* **E. Philadelphicus** Linnæus. Philadelphia fleabane.

**LEPTILON** Rafinesque.

*ERIGERON* Linnæus.

\* **L. Canadense** (Linnæus). Canada fleabane.

**GIFOLA** Cassini.

*FILAGO* Linnæus.

\* **G. Germanica** (Linnæus). Cottonrose.

Fawn Township, Bull Creek, on dry hill near Tarentum, July, 1886.

**ANTENNARIA** Gaertner.

\* **A. neodioica** Greene. Small cat's-foot.  
 Sewickley Township, dry hill near Turkey-foot Run, July, 1886.  
 Moon Township, T. A. Shafer heirs' farm, June, 1887.

† **A. neglecta** Greene. Field cat's-foot.

\* **A. plantaginifolia** (Linnaeus). Plantain-leaf everlasting.

**ANAPHALIS** DeCandolle.

\* **A. margaritacea** (Linnaeus). Pearly everlasting.  
 Moon Township, Flaugherty Run, on Phillips' place, August, 1898, Hugo Roste.

**GNAPHALIUM** Linnaeus.

\* **G. obtusifolium** Linnaeus. Life everlasting.  
*G. polyccephalum* Michaux.

\* **G. decurrens** Ives. Winged cudweed.  
 Moon Township, old field in McKee tract, September 15, 1894.

\* **G. uliginosum** Linnaeus. Low cudweed.

\* **G. purpureum** Linnaeus. Purplish cudweed.

**INULA** Linnaeus.

\* **I. Helenium** Linnaeus. Elecampane.

**CALENDULA** Linnaeus.

\* **C. officinalis** Linnaeus. Garden marigold.  
 Sewickley Township, roadside, Turkey-foot Run Road, October 7, 1886.

**POLYMNIA** Linnæus.

- \* **P. Canadensis** Linnæus. Smaller leaf-cup.  
Baldwin Township, hillside, east of Baldwin Station, August, 1886, Alfred Stengel.
- \* **P. Uvedalia** Linnæus. Larger leaf-cup.

**SILPHIUM** Linnæus.

- \* **S. laciniatum** Linnæus. Compass-plant.  
Allegheny, spontaneous in Highwood Cemetery.
- \* **S. trifoliatum** Linnæus. Whorled rosin-weed.

**ECLIPTA** Linnæus.

- \* **E. alba** (Linnæus). Eclipta.  
Pittsburgh, Allegheny wharf, near Third St., Aug. 15, 1884.

**HELIOPSIS** Persoon.

- \* **H. helianthoides** (Linnæus). Ox-eye.  
*H. levis* Persoon.

**BRAUNERIA** Necker.**ECHINACEA** Mœnch.

- \* **B. pallida** Nuttall. Purple cone-flower.  
*E. angustifolia* De Candolle.  
Sterrett Township, near Brushton, June 20, 1887. C. C. Mellor.

**RUDBECKIA** Linnæus.

- \* **R. laciniata** Linnæus. Tall cone-flower.

- \* **R. hirta** Linnæus. Yellow cone-flower.

\* **R. fulgida** Aiton. Orange cone-flower.

Fawn Township, branch of Bull Creek, near Thomas Dickson's.  
June, 1895.

**RATIBIDA** Rafinesque.

**LEPACHYS** Rafinesque.

\* **R. pinnata** (Ventenat). Gray-headed cone-flower.

*L. pinnata* Torrey & Gray.

Moon Township, Flaugherty Run, on Phillips' place, August,  
1898, Hugo Roste.

**HELIANTHUS** Linnæus.

\* **H. annuus** Linnæus. Common sunflower.

\* **H. mollis** Lamarck. Hairy sunflower.

\* **H. giganteus** Linnæus. Tall sunflower.

\* **H. Maximiliani** Schrader. Maximilian's sunflower

\* **H. grosse-serratus** Martens. Saw-tooth sunflower.

\* **H. microcephalus** Torrey & Gray. Small sunflower.  
*H. parviflorus* Bernhardi.

† **H. doronicoides** Lamarck. Oblong-leaved sunflower.

\* **H. divaricatus** Linnæus. Woodland sunflower.

\* **H. hirsutus** Rafinesque. Stiff-haired sunflower.

\* **H. strumosus** Linnæus. Pale-leaved sunflower.

\* **H. tracheliiifolius** Linnæus. Throatwort sunflower.

\* **H. decapetalus** Linnæus. Thin-leaved sunflower.

\* **H. tuberosus** Linnæus. Jerusalem artichoke.

**VERBESINA** Linnæus.

*ACTINOMERIS* Nuttall.

\* **V. alternifolia** (Linnæus). Golden star.

*A. squarrosa* Nuttall.

**COREOPSIS** Linnæus.

\* **C. tripteris** Linnæus. Tall tickseed.

**BIDENS** Linnæus.

\* **B. frondosa** Linnæus. Beggar-ticks.

† **B. connata** Muhlenberg. Purple-stemmed beggar-ticks.

† **B. cernua** Linnæus. Small bur-marigold.

\* **B. lœvis** (Linnæus). Large bur-marigold.

*B. chrysanthemoides* Michaux.

\* **B. bipinnata** Linnæus. Spanish needles.

**GALINSOGA** Ruiz & Pavon.

\* **G. parviflora** Cavanilles. Galinsoga.

**HELENIUM** Linnæus.

\* **H. autumnale** Linnæus. Sneezeweed.

**ANTHEMIS** Linnæus.

\* **A. Cotula** Linnæus. Mayweed.

**ACHILLEA** Linnæus.

\* **A. Millefolium** Linnæus. Yarrow.

**CHRYSANTHEMUM** Linnæus.

\* **C. Leucanthemum** Linnæus. Ox-eye daisy.

\* **C. Parthenium** Persoon. Feverfew.

Moon Township, roadside near Carnot, July, 1898.

**TANACETUM** Linnæus.

\* **T. vulgare** Linnæus. Tansy.

**ARTEMISIA** Linnæus.

\* **A. Absinthium** Linnæus. Wormwood.

About old gardens.

\* **A. Abrotanum** Linnæus. Southernwood.

Pittsburgh, A. V. R. R., near Morningside, September, 1888,  
Dr. Ziegler.

\* **A. biennis** Willdenow. Biennial wormwood.

Pittsburgh, Butler St., near 56th St., August, 1885.  
Allegheny, Brighton Road. October, 1889.

**SENECIO** Linnæus.

† **S. vulgaris** Linnæus. Common groundsel.

\* **S. aureus** Linnæus. Golden ragwort.

\* **S. Balsamitæ** Muhlenberg. Balsam groundsel.

**SYNOSMA** Rafinesque.**CACALIA** Linnæus.

\* **S. suaveolens** (Linnæus). Sweet-scented Indian plantain.

**MESADENIA** Rafinesque.*CALCALIA* Linnaeus.\* **M. reniformis** (Muhlenberg). Great Indian plantain.\* **M. atriplicifolia** (Linnaeus). Pale Indian plantain.**ERECHTITES** Rafinesque.\* **E. hieracifolia** (Linnaeus). Fireweed.**ARCTIUM** Linnaeus.† **A. Lappa** Linnaeus. Great burdock.\* **A. minus** Schkuhr. Common burdock.**CARDUUS** Linnaeus.*CVICUS* Tournefort.\* **C. lanceolatus** Linnaeus. Common thistle.\* **C. altissimus** Linnaeus. Roadside thistle.\* **C. discolor** (Muhlenberg). Field thistle.\* **C. odoratus** (Muhlenberg). Pasture thistle.

Fawn Township, roadside, Josiah Painter's place, July, 1895

\* **C. muticus** (Michaux). Swamp thistle.

Hampton Township, north of Wildwood Station, July, 1887, Dr. Adolph Koenig; August, 1890, J. A. S.

\* **C. arvensis** (Linnaeus). Canada thistle.**ONOPORDON** Linnaeus.\* **O. Acanthium** Linnaeus. Cotton thistle.

Pittsburg, W. Carson St., near city lines, 1889-98.

**CENTAUREA** Linnæus.

\* **C. Cyanus** Linnæus. Corn-flower.  
Harrison and Moon Townships; escaped from gardens.

**AMBROSIACEÆ** Reichenbach.

## RAGWEED FAMILY. V-42.

**AMBROSIA** Linnæus.

\* **A. trifida** Linnæus. Great ragweed.

\* **A. trifida integrifolia** (Muhlenberg). Entire-leaved great ragweed.

\* **A. artemisiæfolia** Linnæus. Ragweed.

**XANTHIUM** Linnæus.

\* **X. strumarium** Linnæus. Burweed.

**CICHORIACEÆ** Reichenbach.

## CHICORY FAMILY. V-41.

**ADOPOGON** Necker.*KRIGIA* Schreber.

\* **A. Virginicum** (Linnæus). Virginia goatsbeard.  
*K. amplexicaulis* Nuttall.

**CICHORIUM** Linnæus.

\* **C. Intybus** Linnæus. Chicory.

**HIERACIUM** Linnæus.

† **H. Canadense** Michaux. Canada hawkweed.

\* **H. paniculatum** Linnæus. Paniced hawkweed.

\* **H. venosum** Linnæus. Rattlesnake-weed.

\* **H. scabrum** Michaux. Rough hawkweed.

† **H. Gronovii** Linnaeus. Hairy hawkweed.

**NABALUS** Cassini.

*PRENANTHES* Linnaeus.

† **N. crepidineus** (Michaux). Corymbed rattlesnake-root.

\* **N. albus** (Linnaeus). White rattlesnake-root.

\* **N. serpentarius** (Pursh). Lion's-foot.

\* **N. altissimus** (Linnaeus). Tall white lettuce.

† **N. trifoliatus** Cassini. Tall rattlesnake-root.

**TARAXACUM** Haller.

\* **T. Taraxacum** (Linnaeus). Common dandelion.  
*T. officinale* Weber.

§ **T. erythrospermum** Andrzejowski. Red-seeded dandelion.

**LACTUCA** Linnaeus.

\* **L. Scariola** Linnaeus. Prickly lettuce.

\* **L. Canadensis** Linnaeus. Wild lettuce.

\* **L. sagittifolia** Elliott. Arrow-leaved lettuce.  
*L. integrifolia* Bigelow.

\* **L. hirsuta** Muhlenberg. Hairy wood-lettuce.

\* **L. villosa** Jacquin. Hairy blue lettuce.  
*L. acuminata* A. Gray.

- \* **L. spicata** (Lamarck). Tall blue lettuce.  
*L. leucophaea*. A. Gray.

**SONCHUS** Linnæus.

- \* **S. oleraceus** Linnæus. Sow-thistle.

- \* **S. asper** (Linnæus). Spiny sow-thistle.

**CAMPANULACEÆ** Jussieu.

BELL-FLOWER FAMILY. V-40.

**CAMPANULA** Linnæus.

- ? **C. rotundifolia** Linnæus. Harebell.

- \* **C. aparinoides** Pursh. Marsh bell-flower.

Hulton, on river-bank, August, 1888, Dr. Adolph Koenig. Harrison Township, swamp below Joseph Johnston's house, August, 1900.

- \* **C. Americana** Linnæus. Tall bell-flower.

**LEGOUZIA** Durand.

*SPECULARIA* Heister.

- \* **L. perfoliata** (Linnæus). Venus' looking-glass.

**LOBELIA** Linnæus.

- \* **L. cardinalis** Linnæus. Cardinal-flower.

Pittsburg, Glenwood Grove, near river bank, Sept., 1882; Harrison Township, woods of Henry Boyd's heirs, Sept., 1900.

- \* **L. syphilitica** Linnæus. Great lobelia.

- \* **L. spicata** Lamarck. Spiked lobelia.

- \* **L. inflata** Linnæus. Indian tobacco.

**VACCINIACEÆ** Lindley.

HUCKLEBERRY FAMILY. V-5.

**GAYLUSSACIA** Humboldt, Bonpland, & Kunth.\* **G. resinosa** (Aiton). Black huckleberry.**VACCINIUM** Linnæus.\* **V. stamineum** Linnæus. Deerberry.† **V. corymbosum** Linnæus. Tall blueberry.† **V. vacillans** Kalm. Low blueberry.\* **V. Pennsylvanicum** Lamarck. Dwarf blueberry.**ERICACEÆ** DeCandolle.

HEATH FAMILY. V-4.

**EPIGÆA** Linnæus.\* **E. repens** Linnæus. Trailing arbutus.**GAULTHERIA** Linnæus.\* **G. procumbens** Linnæus. Wintergreen.**XOLISMA** Rafinesque.*ANDROMEDA* Linnæus.\* **X. ligustrina** (Linnæus). Andromeda.

Pine Township. Creek near Wexford, June, 1886.

**OXYDENDRUM** De Candolle.§ **O. arboreum** (Linnæus). Sorrel-tree.**KALMIA** Linnæus.\* **K. latifolia** Linnæus. Mountain laurel.

**RHODODENDRON** Linnæus.

- \* **R. maximum** Linnæus. Great laurel.

**AZALEA** Linnæus.

- \* **A. nudiflora** Linnæus. Wild honeysuckle.

- \* **A. arborescens** Pursh. Tree azalea.

**PYROLACEÆ** Agardh.

## WINTERGREEN FAMILY. V-2.

**CHIMAPHILA** Pursh.

- \* **C. umbellata** (Linnæus). Pipsissewa.

- \* **C. maculata** (Linnæus). Spotted wintergreen.

**PYROLA** Linnæus.

- † **P. chlorantha** Swartz. Greenish-flowered wintergreen.

- \* **P. elliptica** Nuttall. Shin-leaf.

- \* **P. rotundifolia** Linnæus. Round-leaved wintergreen.

**MONOTROPACEÆ** Lindley.

## INDIAN-PIPE FAMILY. V-3.

**MONOTROPA** Linnæus.

- \* **M. uniflora** Linnæus. Indian-pipe.

**HYPOPITYS** Adanson.

- \* **H. Hypopitys** (Linnæus). Pine-sap.

Moon Township, McKee tract, July, 1887.

**PRIMULACEÆ** Ventenat.

## PRIMROSE FAMILY. V-7.

**TRIENTALIS** Linnæus.

† **T. Americana** Pursh. Star-flower.

**STEIRONEMA** Rafinesque.

\* **S. ciliatum** (Linnæus). Fringed loosestrife.

**LYSIMACHIA** Linnæus.

\* **L. quadrifolia** Linnæus. Whorled loosestrife.

\* **L. terrestris** (Linnæus). Bulbous loosestrife.

*L. stricta* Aiton.

\* **L. Nummularia** Linnaeus. Moneywort.

Sparingly escaped from old gardens.

**ANAGALLIS** Linnæus.

\* **A. arvensis** Linnæus. Poor man's weather-glass.

**EBENACEÆ** Ventenat.

## EBONY FAMILY. V-10.

**DIOSPYROS** Linnæus.

\* **D. Virginiana** Linnæus. Persimmon.

Probably our rarest tree, found only in three or four stations.

**OLEACEÆ** Lindley.

## OLIVE FAMILY. V-13.

**FRAXINUS** Linnæus.

\* **F. Americana** Linnæus. White ash.

\* **F. lanceolata** Borckhausen. Green ash.

*F. viridis* Michaux.

† **F. Pennsylvanica** Marshall. Red ash.

*F. pubescens* Lamarck.

? **F. quadrangulata** Michaux. Blue ash.

\* **F. nigra** Marshall. Black ash.

*F. sambucifolia* Lamarck.

Stowe Township. Wet woods. Graham tract, Sept. 15, 1899.

### LIGUSTRUM Linnæus.

\* **L. vulgare** Linnæus. Privet.

Spontaneous about old gardens.

### APOCYNACEÆ Lindley.

#### DOGBANE FAMILY. V-17.

##### APOCYNUM Linnæus.

\* **A. androsæmifolium** Linnæus. Spreading dogbane.

\* **A. cannabinum** Linnæus. Indian hemp.

\* **A. cannabinum glaberrimum** De Candolle.

\* **A. hypericifolium** Aiton. Clasping-leaved dogbane.

Penn Township, river bank, A. V. R. R., at mile-post 8, June, 1884.

### VINCA Linnæus.

\* **V. minor** Linnæus. Periwinkle.

Occasionally escaped near old graveyards.

### ASCLEPIADACEÆ Lindley.

#### MILKWEED FAMILY. V-18.

##### ASCLEPIAS Linnæus.

\* **A. tuberosa** Linnaeus. Pleurisy-root.

\* **A. incarnata** Linnæus. Swamp milkweed.

A white-flowering form, Moon Township, near Coraopolis, August, 1890.

\* **A. Syriaca** Linnæus. Common milkweed.

*A. Cornuti* Decaisne.

\* **A. exaltata** (Linnæus). Poke milkweed.

*A. phytolaccoides* Pursh.

† **A. variegata** Linnæus. White milkweed.

\* **A. quadrifolia** Jacquin. Four-leaved milkweed.

### ACERATES Elliott.

\* **A. viridiflora** (Rafinesque). Green milkweed.

Moon Township, Shafer farm, July, 1887. Harrison Township, John Pott's farm, July, 1895.

### GENTIANACEÆ Dumortier.

GENTIAN FAMILY. V-15.

#### SABBATIA Adanson.

\* **S. angularis** (Linnæus). Rose-pink.

#### GENTIANA Linnæus.

\* **G. crinita** Frælich. Fringed gentian.

Shaler Township, Miller farm, July, 1886. Hon. J. D. Shafer.

\* **G. Andrewsii** Grisebach. Closed gentian.

#### OBOLARIA Linnæus.

\* **O. Virginica** Linnæus. Pennywort.

“Woods below Sewickley, 1868,” Rev. S. W. Knipe. Moon Township, McKee tract, May 8, 1887.

**POLEMONIACEÆ** De Candolle.

PHLOX FAMILY. V-21.

**PHLOX** Linnæus.† **P. paniculata** Linnæus. Garden phlox.\* **P. maculata** Linnæus. Wild Sweet-William.\* **P. divaricata** Linnaeus. Wild blue phlox.\* **P. subulata** Linnæus. Moss-pink.**POLEMONIUM** Linnæus.\* **P. reptans** Linnæus. Greek valerian.**HYDROPHYLLACEÆ.**

WATER-LEAF FAMILY. V-22.

**HYDROPHYLLUM** Linnæus.\* **H. Virginicum** Linnæus. Virginia water-leaf.\* **H. Canadense** Linnæus. Broad water-leaf.\* **H. appendiculatum** Michaux. Appendaged water-leaf.**PHACELIA** Jussieu.\* **P. Purshii** Buckley. Pursh's phacelia.**BORAGINACEÆ** Lindley.

BORAGE FAMILY. V-23.

**CYNOGLOSSUM** Linnæus.\* **C. officinale** Linnæus. Hound's-tongue.\* **C. Virginicum** Linnæus. Wild comfrey.

**LAPPULA** Mœnch.*ECHINOSPERMUM* Swartz.\* **L. Virginiana** (Linnæus). Beggars'-lice.\* **L. Lappula** (Linnæus). European burseed.**MERTENSIA** Roth.\* **M. Virginica** (Linnæus). Bluebells.**MYOSOTIS** Linnæus.\* **M. laxa** Lehmann. Smaller forget-me-not.\* **M. Virginica** (Linnæus). Early scorpion-grass.*M. verna* Nuttall.**LITHOSPERMUM** Linnæus.\* **L. arvense** Linnæus. Corn gromwell.† **L. officinale** Linnæus. Gromwell.\* **L. latifolium** Michaux. American gromwell.Pittsburg, hilltop near Salt-works Station, B. & O. R. R., 1891,  
Dr. A. Koenig.**ECHIUM** Linnæus.\* **E. vulgare** Linnæus. Blueroot.**SYMPHYTUM** Linnæus.† **S. officinale** Linnæus. Comfrey.**CONVOLVULACEÆ** Ventenat.

MORNING-GLORY FAMILY. V-19.

**IPOMŒA** Linnæus.\* **I. hederacea** Jacquin. Ivy-leaved morning-glory.

Moon Township, T. A. Shafer heirs' farm, Sept., 1887.

\* **I. purpurea** (Linnæus). Morning-glory.

Often escaped to waste places.

\* **I. pandurata** (Linnæus). Wild potato vine.

**CONVOLVULUS** Linnæus.

\* **C. spithameus** Linnæus. Upright bindweed.

\* **C. sepium** Linnæus. Great bindweed.

\* **C. Japonicus** Thunberg. Double morning-glory.

The double form occasionally escaped.

|| **C. arvensis** Linnæus. Small bindweed.

**CUSCUTACEÆ** Dumortier.

DODDER FAMILY. V-20.

**CUSCUTA** Linnæus.

\* **C. Gronovii** Willdenow. Gronovius' dodder.

**SOLANACEÆ** Persoon.

NIGHTSHADE FAMILY. V-26.

**SOLANUM** Linnæus.

\* **S. Dulcamara** Linnæus. Bittersweet.

Allegheny, Highwood Cemetery, in woods. John Ferguson.

\* **S. nigrum** Linnæus. Black nightshade.

\* **S. Carolinense** Linnæus. Horse-nettle.

**PHYSALIS** Linnæus.

\*? **P. Philadelphica** Lamarck. Philadelphia ground-cherry.

\*? **P. pubescens** Linnaeus. Low hairy ground-cherry.

\*? **P. heterophylla** Nees. Clammy ground-cherry.

? **P. viscosa** Linnaeus. Stellate ground-cherry.

**PHYSALODES** Boehmer.

*VICANDRA* Adanson.

\* **P. Physalodes** (Linnaeus). Apple-of-Peru.

Stowe Township, Davis Island Station, P. & L. E. R. R., Oct., 1885.

**LYCIUM** Linnaeus.

\* **L. vulgare** (Aiton, f.). Matrimony vine.

**DATURA.** Linnaeus.

\* **D. Stramonium** Linnaeus. Jimson-weed.

\* **D. Tatula** Linnaeus. Purple thorn-apple.

\* **LYCOPERSICON** Miller.

\* **L. Lycopersicon** (Linnaeus). Tomato.

Frequently spontaneous about waste places in the city.

**PETUNIA** Jussieu.

\* **P. axillaris** (Lamarck). White petunia.  
Escaped from gardens.

\* **P. violacea** Lindley. Violet petunia.  
Escaped, more frequently than the last.

**SCROPHULARIACEÆ** Lindley.

FIGWORT FAMILY. V-27.

**VERBASCUM** Linnaeus.\* **V. Thapsus** Linnaeus. Velvet mullein.\* **V. Blattaria** Linnaeus. Moth-mullein.**LINARIA** Jussieu.\* **L. Linaria** (Linnaeus). Toad-flax.*L. vulgaris* Miller.**SCROPHULARIA** Linnaeus.\* **S. Marylandica** Linnaeus. Figwort.**COLLINSIA** Nuttall.\* **C. verna** Nuttall. Blue-eyed Mary.

Robinson Township, Scully's Springs, May, 1893, Prof. G. Guttenberg.

**CHELONE** Linnaeus.\* **C. glabra** Linnaeus. Turtle-head.**PENTSTEMON** Solander.\* **P. hirsutus** (Linnaeus). Hairy beard-tongue.*P. pubescens* Solander.\* **P. Digitalis** (Sweet). Foxglove beard-tongue.**MIMULUS** Linnaeus.\* **M. ringens** Linnaeus. Square-stemmed monkey-flower.† **M. alatus** Solander. Winged monkey-flower.

**GRATIOLA** Linnæus.

\* **G. Virginiana** Linnæus. Clammy hedge-hyssop.

† **G. aurea** Muhlenberg. Golden hedge-hyssop.

**ILYSANTHES** Rafinesque.

\* **I. gratioloides** (Linnæus). False pimpernel.

**LEPTANDRA** Nuttall.**VERONICA** Linnæus.

\* **L. Virginica** (Linnæus). Culver's-root.

**VERONICA** Linnæus.

\* **V. spicata** Linnæus. Spiked speedwell.

Moon Township, old orchard near Carnot, July, 1895.

† **V. Anagallis-aquatica** Linnæus. Water speedwell.

\* **V. Americana** Schweinitz. American speedwell.

\* **V. scutellata** Linnæus. Skull-cap speedwell.

Robinson Township, ditches near Groveton, June, 1898.

\* **V. officinalis** Linnæus. Common speedwell.

\* **V. serpyllifolium** Linnæus. Thyme-leaved speedwell.

\* **V. peregrina** Linnæus. Purslane speedwell.

\* **V. arvensis** Linnæus. Corn speedwell.

**GERARDIA** Linnæus.

\* **G. tenuifolia** Vahl. Slender gerardia.

**DASYSTOMA** Linnæus.*GERARDIA* Linnæus.

\* **D. Pedicularia** (Linnæus). Fern-leaved false foxglove.  
Moon Township, Wm. Tomlinson's woods, Aug., 1896.

\* **D. flava** (Linnæus). Downy false foxglove.

† **D. lævigata** Rafinesque. Entire-leaved false foxglove.

**CASTILLEJA** Mutis.

\* **C. coccinea** (Linnæus). Scarlet painted-cup.  
Marshall Township, near Thorn Hill, May, 1886.

**PEDICULARIS** Linnæus.

\* **P. Canadensis** Linnæus. Wood betony.

**OROBANCHACEÆ** Lindley.

BROOM-RAPE FAMILY. V-29.

**LEPTAMNIUM** Rafinesque.

*EPIPHEGUS* Nuttall.

\* **L. Virginianum** (Linnæus). Beech-drops.

**CONOPHOLIS** Wallroth.

\* **C. Americana** (Linné). Squaw-root.

**THALESIA** Rafinesque.

*APHYLLON* A. Gray.

\* **T. uniflora** (Linnæus). Cancer-root.

**BIGNONIACEÆ** Persoon.

TRUMPET-CREEPER FAMILY. V-30.

**TECOMA** Jussieu.

\* **T. radicans** (Linnæus). Trumpet-creeper.  
Moon Township, Deadman's Island, July, 1896.

**CATALPA** Scopoli.

\* **C. Catalpa** (Linnæus). Indian bean.

*C. bignonioides* Walter.

Pittsburgh, Stanton Ave., spontaneous, frequently so elsewhere about the city.

**ACANTHACEÆ** St. Hilaire.

ACANTHUS FAMILY. V-32.

**DIANTHERA** Linnæus.

**D. Americana** Linnæus. Water willow.

**VERBENACEÆ** St. Hilaire.

VERVAIN FAMILY. V-24.

**VERBENA** Linnæus.

\* **V. urticifolia** Linnæus. Nettle leaved vervain.

\* **V. hastata** Linnæus. Blue vervain.

§ **V. stricta** Ventenat. Hoary vervain.

**LIPPIA** Linnæus.

\* **L. lanceolata** Michaux. Frog-fruit.

Allegheny, "River bank, near glass-house ripple." John Ferguson.

**PHRYMACEÆ** Schauer.

LOPSEED FAMILY. V-32.\*

**PHRYMA** Linnæus.

\* **P. Leptostachya** Linnæus. Lopseed.

**LABIATÆ** B. Jussieu.

## MINT FAMILY. V-25.

**ISANTHUS** Michaux.

\* **I. brachiatus** (Linnæus). False pennyroyal.  
*I. coruleus* Michaux.

**TEUCRIUM** Linnæus.

\* **T. Canadense** Linnæus. Wood sage.

**COLLINSONIA** Linnæus.

\* **C. Canadensis** Linnæus. Stone-root.

**MENTHA** Linnæus.

\* **M. rotundifolia** (Linnæus). Round-leaved mint.  
Old gardens: occasionally spontaneous.

\* **M. spicata** Linnæus. Spearmint.  
*M. viridis* Linnæus.

\* **M. piperita** Linnæus. Peppermint.

|| **M. crispa** Linnæus. Curled mint.

† **M. arvensis** Linnæus. Field mint.

\* **M. Canadensis**. Wild mint.

**LYCOPUS** Linnæus.

\* **L. Virginicus** Linnæus. Bugle-weed.

\* **L. Americanus** Muhlenberg. Cut-leaved water horehound.  
*L. sinuatus* Elliott.

† **L. Europæus** Linnæus. Water horehound.

**PERILLA** Arduino.

\* **P. frutescens** (Linnæus). Perilla.  
Pittsburgh : spontaneous in old gardens.

**CUNILA** Linnæus.

\* **C. origanoides** (Linnæus). American dittany.  
*C. Mariana* Linnæus.

**KÆLLIA** Mœnch.*PYCNANTHEMUM* Michaux.

\* **K. Virginiana** (Linnæus). Virginia mountain-mint.  
*P. lanceolatum* Pursh.

Hulton, August 1, 1888. Dr. Adolph Koenig.

\* **K. flexuosa** (Walker). Narrow-leaved mountain-mint.  
*P. linifolium* Pursh.

Sterrett Township, near Edgewood, August, 1885. C. C. Mellor.

\* **K. verticillata** (Michaux). Torrey's mountain-mint.  
*P. Torreyi* Benth.

Fawn Township, Branch of Bull Creek, near Schoolhouse No. 2, August, 1900.

\* **K. incana** (Linnæus). Hoary mountain-mint.

**CLINOPODIUM** Linnæus.*CALAMINTHA* Mœnch.

\* **C. vulgare** Linnæus. Wild basil.  
*C. Clinopodium* Benth.

**MELISSA** Linnæus.

\* **M. officinalis** Linnæus. Lemon balm.

**HEDEOMA** Persoon.

**H. pulegioides** (Linnæus). American pennyroyal.

**SALVIA** Linnæus.

† **S. lyrata** Linnæus. Lyre-leaved sage.

**MONARDA** Linnæus.

\* **M. didyma** Linnaeus. Oswego tea.

|| **M. media** Willdenow. Purple bergamot.

Moon Township, Flaugherty's Run, August, 1893.

\* **M. fistulosa** Linnæus. Wild bergamot.

**BLEPHILIA** Rafinesque.

\* **B. ciliata** (Linnæus). Downy blephilia.

\* **B. hirsuta** (Pursh). Hairy blephilia.

**AGASTACHE** Clayton.

*LOPHANTHUS* Bentham.

\* **A. nepetoides** (Linnæus). Catnip giant-hyssop.

\* **A. scrophulariæfolius** (Willdenow). Figwort giant-hyssop.

Moon Township, thickets near Thorn Run Station, August, 1897,  
Oct., 1900.

Harrison Township, roadside near Sligo, Sept., 1900.

**NEPETA** Linnæus.

\* **N. Cataria** Linnæus. Catnip.

**GLECOMA** Linnæus.

\* **G. hederacea** Linnæus. Ground ivy.

*Nepeta Glechoma* Bentham.

**MEEHANIA** Britton.**CEDRONELLA** Mœnch.

\* **C. cordata** (Nuttall). Meehania.

Mifflin Township, Howard Station, June, 1893, Prof. G. Guttenberg.

**PHYSOSTEGIA** Bentham.

\* **P. Virginiana** (Linnæus). False dragon-head.

Robinson Township, Moon Run Station, Sept. 11, 1886. Prof. B. H. Patterson.

Moon Township, Deadman's Island, July, 1896.

**PRUNELLA** Linnæus.

\* **P. vulgaris** Linnæus. Heal-all.

**SCUTELLARIA** Linnæus.

\* **S. lateriflora** Linnæus. Mad-dog skullcap.

\* **S. saxatilis** Riddell. Rock skullcap.

Moon Township, Laschell's Hollow; August 1, 1898.

\* **S. incana** Muhlenberg. Downy skullcap.

*S. canescens* Nuttall.

\* **S. pilosa** Michaux. Hairy skullcap.

O'Hara Township, Darlington's Hollow, August 17, 1884.

\* **S. parvula** Michaux. Small skullcap.

† **S. galericulata** Linnæus. Marsh skullcap.

\* **S. nervosa** Pursh. Veined skullcap.

**MARRUBIUM** Linnæus.\* **M. vulgare** Linnæus. Hoarhound.

Moon Township, roadside near Carnot, August, 1898.

Fawn Township, roadside near Bull Creek, near Tarentum, August, 1900.

**LEONURUS** Linnæus.\* **L. Cardiaca** Linnæus. Motherwort.**GALEOPSIS** Linnæus.† **G. Tetrahit** Linnæus. Hemp-nettle.**STACHYS** Linnæus.\* **S. palustris** Linnæus. Hedge-nettle.

Hampton Township, Wildwood Station, July 9, 1891, Dr. Adolph Koenig.

† **S. aspera** Michaux. Rough hedge-nettle.**LAMIUM** Linnæus.\* **L. amplexicaule** Linnæus. Henbit dead-nettle.\* **L. maculatum** Linnæus. Spotted dead-nettle.

Old gardens, occasionally spontaneous.

**PLANTAGINACEÆ** Lindley.

## PLANTAIN FAMILY. V-33.

**PLANTAGO** Linnæus.\* **P. major** Linnæus. Common plantain.

Not so common as the next.

\* **P. Rugelii** Decaisne. Rugel's plantain.

\* **P. lanceolata** Linnaeus. English plantain.

\* **P. aristata** Michaux. Large-bracted plantain.

\* **P. Virginica** Linnaeus. Dwarf plantain.

### AMARANTHACEÆ J. St. Hilaire.

#### AMARANTH FAMILY. IV-16.

##### AMARANTHUS Linnaeus.

\* **A. hybridus** Linnaeus. Slender pigweed.

*A. chlorostachys* Willdenow.

\* **A. hybridus paniculatus** (Linnaeus). Red pigweed.

\* **A. retroflexus** Linnaeus. Rough pigweed.

† **A. græcizans** Linnaeus. Tumble-weed.

*A. albus* Linnaeus.

\* **A. blitoides** Watson. Prostrate amaranth.

### CHENOPODIACEÆ Dumortier.

#### GOOSEFOOT FAMILY. IV-15.

##### CHENOPODIUM Linnaeus.

\* **C. album** Linnaeus. Lamb's quarters.

\* **C. glaucum** Linnaeus. Oak-leaved goosefoot.

Harrison Township, streets of Natrona, August, 1895-1900.

\* **C. urbicum** Linnaeus. City goosefoot.

† **C. hybridum** Linnaeus. Maple-leaved goosefoot.

Rev. S. W. Knipe, 1869?

\* **C. Bonus-Henricus** Linnæus. Good King Henry.

\* **C. Botrys** Linnæus. Jerusalem oak.

\* **C. ambrosioides** Linnæus. Mexican tea.

\* **C. anhelminthicum** Linnæus. Wormseed.

**BLITUM** Linnæus.

† **B. capitatum** Linnæus. Strawberry blite.

**ATRIPLEX** Linnæus.

† **A. patula** Linnæus. Spreading orache.

\* **A. hastata** Linnæus. Halberd-leaved orache.

† **A. rosea** Linnæus. Red orache.

**SALSOLA** Linnæus.

\* **S. Tragus** Linnæus. Russian thistle.

Harrison Township, Natrona. July, 1895.

**PHYTOLACCACEÆ** Lindley.

POKEWEED FAMILY. IV-17.

**PHYTOLACCA** Linnæus.

\* **P. decandra** Linnæus. Pokeweed.

**POLYGONACEÆ** Lindley.

BUCKWHEAT FAMILY. IV-14.

**RUMEX** Linnæus.

\* **R. Acetosella** Linnæus. Sheep sorrel.

† **R. verticillatus** Linnaeus. Swamp dock.

\* **R. crispus** Linnaeus. Curled dock.

\* **R. obtusifolius** Linnaeus. Bitter dock.

† **R. conglomeratus** Murray. Smaller green dock.

† **R. sanguineus** Linnaeus. Red veined dock.

### **POLYGONUM** Linnaeus.

? **P. maritimum** Linnaeus. Seaside knotweed.

\* **P. aviculare** Linnaeus. Door-weed.

\* **P. erectum** Linnaeus. Erect knotweed.

\* **P. ramosissimum** Michaux. Bushy knotweed.  
Allegheny R. R. near outer depot, 1886, Dr. A. Ziegler.

† **P. incarnatum** Elliott. Slender pink persicaria.

\* **P. Pennsylvanicum** Linnaeus. Pennsylvania persicaria.

\* **P. orientale** Linnaeus. Prince's feather.

\* **P. Persicaria** Linnaeus. Lady's thumb.

\* **P. hydropiperoides** Michaux. Mild waterpepper.

\* **P. Hydropiper** Linnaeus. Smart-weed.

\* **P. punctatum** Elliott. Water smart-weed.

*P. acre* Humboldt, Bonpland & Kunth.

|| **P. emersum** (Michaux). Swamp persicaria.  
Davis Island. Shore at head of island, August, 1898.

\* **P. Virginianum** Linnæus. Virginia knotweed.

\* **P. arifolium** Linnæus. Halberd-leaved tear-thumb.  
Stowe Township, swamp near Turner Station, Sept. 15, 1899.

\* **P. sagittatum** Linnæus. Arrow-leaved tear-thumb.

\* **P. convolvulus** Linnæus. Black bindweed.

\* **P. scandens** Linnæus. Climbing false buckwheat.

\* **P. ciliinode** Michaux. Fringed black bindweed.

### FAGOPYRUM Gærtner.

\* **F. Fagopyrum** (Linnæus). Buckwheat.

### ARISTOLOCHIACEÆ Blume.

BIRTHWORT FAMILY. IV-13.

#### ASARUM Linnæus.

\* **A. Canadense** Linnæus. Wild ginger.  
Moon Township, among rocks, Laschell's Hollow, April 20, 1899.

\* **A. reflexum** Bicknell. Short-lobed wild ginger.  
Our commonest form, seems to belong here.

#### ARISTOLOCHIA Linnæus.

\* **A. Serpentaria** Linnæus. Virginia snakeroot.

\* **A. macrophylla** Lamarck. Dutchman's pipe.  
*A. Siphon* L'Heritier.

"This grows naturally near Pittsburgh in a rich soil and shaded situation." Humphrey Marshall, in "Arbustum Americanum," 1785.

Wooded hillside, south bank of Ohio River, 1884-1900, J. A. S.

**SAURURACEÆ** Lindley.

LIZARD'S-TAIL FAMILY. IV-1.

**SAURURUS** Linnaeus.

\* **S. cernuus** Linnaeus. Lizard's-tail.

**LAURACEÆ** Lindley.

LAUREL FAMILY. IV-30.

**SASSAFRAS** Nees & Ebermaier.

\* **S. Sassafras** (Linnaeus). Sassafras.

*S. officinale* Nees & Ebermaier.

**BENZOIN** Fabricius.

*LINDERIA* Thunberg.

\* **B. Benzoin** (Linnaeus). Spice-bush.

**SANTALACEÆ** R. Brown.

SANDALWOOD FAMILY. IV-12.

**COMANDRA** Nuttall.

\* **C. umbellata** (Linnaeus). Bastard toad-flax.

**LORANTHACEÆ** D. Don.

MISTLETOE FAMILY. IV-11.

**PHORADENDRON** Nuttall.

† **P. flavescens** (Pursh). American mistletoe.

On an old oak which used to stand on the campus of the Western University of Pennsylvania, Allegheny, Dr. W. J. Holland.

**EUPHORBIACEÆ** J. St. Hilaire.

## SPURGE FAMILY. IV-57.

**EUPHORBIA** Linnæus.

\* **E. maculata** Linnæus. Spotted spurge.

\* **E. nutans** Lagasca. Large spotted spurge.

*E. Preslpii* Gussone.

\* **E. corollata** Linnæus. Flowering spurge.

\* **E. Peplus** Linnæus. Petty spurge.

Harrison Township, near Upper Schoolhouse No. 1, August, 1895-1900.

\* **E. commutata** Engelmann. Tinted spurge.

South Fayette Township, near Marshalsea, May 11, 1900.

\* **E. Cyprissias** Linnæus. Cypress spurge.

Frequently escaped from old graveyards.

**ACALYPHA** Linnæus.

\* **A. Virginica** Linnæus. Three-seeded Mercury.

**ULMACEÆ** Mirbel.

## ELM FAMILY. IV-8.

**ULMUS** Linnæus.

\* **U. fulva** Michaux. Slippery, or red elm.

\* **U. Americana** Linnæus. American, or white elm.

\* **U. racemosa** Thomas. Cork, or rock elm.

Allegheny, Highwood Cemetery: apparently native.

**CELTIS** Linnaeus.

\* **C. occidentalis** Linnaeus. Hackberry.

**MORACEÆ** Lindley.

## MULBERRY FAMILY. IV-9.

**CANNABIS** Linnaeus.

\* **C. sativa** Linnaeus.

Pittsburgh, occasionally, in waste places.

**HUMULUS** Linnaeus.

\* **H. Lupulus** Linnaeus. Hop.

Doubtfully native.

**TOXYLON** Rafinesque.*MACLURA* Nuttall.

\* **T. pomiferum** Rafinesque. Osage orange.

*M. aurantiaca* Nuttall.

Escaped from hedges.

**MORUS** Linnaeus.

\* **M. rubra** Linnaeus. Red mulberry.

\* **M. alba** Linnaeus. White mulberry.

Moon Township, two trees by fence-row, Wm. Tomlinson's, 1860.

**URTICACEÆ** Reichenbach.

## NETTLE FAMILY. IV-10.

**URTICA** Linnaeus.

\* **U. gracilis** Aiton. Slender nettle.

† **U. dioica** Linnaeus. Stinging nettle.

**URTICASTRUM** Fabricius.*LAPORTEA* Gaudichaud.\* **U. divaricatum** (Linnæus). Wood nettle.*L. Canadensis* Gaudichaud.**ADICEA** Rafinesque.*PILEA* Lindley.\* **A. pumila** (Linnæus). Clearweed.**PLATANACEÆ** Lindley.

PLANE-TREE FAMILY. IV-42.

**PLATANUS** Linnæus.\* **P. occidentalis** Linnæus. Sycamore.**JUGLANDACEÆ** Lindley.

WALNUT FAMILY. IV-2.

**JUGLANS** Linnaeus.\* **J. cinerea** Linnæus. Butternut.\* **J. nigra** Linnæus. Black walnut.**HICORIA** Rafinesque.*CARYA* Nuttall.\* **H. ovata** (Miller). Shell-bark.*C. alba* Nuttall.† **H. laciniosa** (Michaux f.). Big shell-bark.*C. sulcata* Nuttall.\* **H. alba** (Linnæus). Bull-nut.*C. tomentosa* Nuttall.† **H. odorata** (Marshall). Small-fruited hickory.*C. microcarpa* Nuttall.

\* **H. glabra** (Miller). Pig-nut.

*C. porcina* Nuttall.

\* **H. minima** (Marshall). Bitter-nut.

*C. amara* Nuttall.

**BETULACEÆ** Agardh.

BIRCH FAMILY. IV-6.

**BETULA** Linnæus.

\* **B. lenta** Linnæus. Sweet birch.

† **B. lutea** Michaux f. Yellow birch.

**ALNUS** Gærtner.

\* **A. rugosa** (DuRoi). Smooth alder.

*A. serrulata* Willdenow.

**CORYLUS** Linnæus.

\* **C. Americana** Walker. Hazel-nut.

**OSTRYA** Scopoli.

\* **O. Virginiana** (Miller). Hop-tree.

**CARPINUS** Linnæus.

\* **C. Caroliniana** Walter. American iron-wood.

**FAGACEÆ** Drude.

BEECH FAMILY. IV-7.

**QUERCUS** Linnæus.

\* **Q. alba** Linnæus. White oak.

† **Q. minor** (Marshall). Post oak.

*Q. stellata* Wangenheim.

- \* **Q. macrocarpa** Michaux. Mossy-cup oak.  
McKees Rocks, on Creek near Schoolhouse.
- \* **Q. platanoides** Lamarck. Swamp white oak.  
*Q. bicolor* Willdenow.  
Stowe Township, low woods on Graham place, Sept. 15, 1899.
- \* **Q. Prinus** Linnæus. Rock chestnut oak.
- † **Q. acuminata** (Michaux). Yellow oak.  
*Q. Muhlenbergii* Engelmann.
- † **Q. prinoides** Willdenow. Chestnut scrub-oak.  
Richland Township, near Bakerstown. Hon. J. D. Shafer.
- \* **Q. rubra** Linnæus. Red oak.
- \* **Q. coccinea** Wangenheim. Scarlet oak.
- \* **Q. velutina** Lamarck. Black oak.  
*Q. tinctoria* Gray.
- \* **Q. palustris** DuRoi. Pin oak.
- ? **Q. digitata** (Marshall). Spanish oak.  
*Q. fulcata* Michaux.
- † **Q. nana** (Marshall). Bear scrub oak.  
*Q. ilicifolia* Wangenheim.
- † **Q. Marylandica** Muenchhausen. Barren oak.  
*Q. nigra* Linnæus.
- \* **Q. imbricaria** Michaux. Laurel oak.
- ? **Q. Phellos** Linnæus. Willow oak.

**CASTANEA** Adanson.\* **C. dentata** (Marshall). Chestnut.**FAGUS** Linnaeus.\* **F. Americana** Sweet. American beech.**SALICACEÆ** Lindley.

## WILLOW FAMILY. IV-5.

**SALIX** Linnaeus.\* **S. nigra** Marshall. Black willow.† **S. lucida** Muhlenberg. Shining willow.† **S. fragilis** Linnaeus. Crack willow.† **S. alba** Linnaeus. White willow.|| **S. Babylonica** Tournefort. Weeping willow.\* **S. fluviatilis** Nuttall. Sand-bar willow.*S. longifolia* Marshall.\* **S. discolor** Muhlenberg. Glaucous willow.? **S. humilis** Marshall. Prairie willow.\* **S. sericea** Marshall. Silky willow.† **S. purpurea** Linnaeus. Purple willow.† **S. cordata** Muhlenberg. Heart-leaved willow.

**POPULUS** Linnaeus.

- \* **P. alba** Linnaeus. Silver-leaf poplar.  
Escaped to roadsides.
- \* **P. tremuloides** Michaux. American aspen.  
Harrison Township, between farms of John Potts and Jos. Johnston, 1895-1900.
- \* **P. grandidentata** Michaux. Large-toothed aspen.
- \* **P. balsamifera** Linnaeus. Balsam poplar.
- \* **P. dilatata** Linnaeus. Lombardy poplar.

**CERATOPHYLLACEÆ** A. Gray.

HORNWORT FAMILY. IV-23.

**CERATOPHYLLUM** Linnaeus.

- † **C. demersum** Linnaeus. Hornwort.  
Pittsburgh, Silver Lake, 1885. C. C. Mellor.

**PINACEÆ** Lindley.

PINE FAMILY. II-1.

**PINUS** Linnaeus.

- \* **P. Strobus** Linnaeus. White pine.
- \* **P. Virginiana** Miller. Scrub pine.  
*P. inops* Aiton.

**TSUGA** Carriere.

- \* **T. Canadensis** (Linnaeus). Hemlock.

**JUNIPERUS** Linnaeus.

- \* **J. Virginiana** Linnaeus. Red cedar.

**TAXACEÆ** Lindley.

YEW FAMILY. II-2.

**TAXUS** Linnæus.|| **T. minor** (Michaux). American yew.*T. Canadensis* Willdenow.

Shaler Township, R. R. tunnel near Undercliff.

**ORCHIDACEÆ** Lindley.

ORCHID FAMILY. III-28.

**LEPTORCHIS** Thouans.*LIPARIS* L. C. Richard.\* **L. liliifolia** (Linnæus). Large twayblade.

Moon Township, several stations, 1890. Allegheny, Highwood Cemetery, June, 1891. John Ferguson.

**APLECTRUM** Nuttall.\* **A. spicatum** (Walter). Putty-root.*A. hyemale* Nuttall.

Moon Township, Owen Evans' woods, June, 1887.

**CORALLORHIZA** R. Brown.\* **C. odontorhiza** (Willdenow). Small-flowered coral-root.

Moon Township, oak woods, T. A. Shafer heirs, August, 1889.

\* **C. multiflora** Nuttall. Large coral-root.**GYROSTACHYS** Persoon.*SPIRAVANTHES* L. C. Richard.\* **G. cernua** (Linnæus). Nodding ladies' tresses.\* **G. gracilis** (Bigelow). Slender ladies' tresses.

Allegheny, Highwood Cemetery, August, 1898, John Ferguson.

**PERAMNIUM** Salisbury.*GOODYERA* R. Brown.

\* **P. pubescens** (Willdenow). Downy rattlesnake plantain.

**POGONIA** Jussieu.

\* **P. verticillata** (Willdenow). Whorled pogonia.  
Moon Township, the McKee tract, in fruit, July, 1887.

**ORCHIS** Linnæus.

\* **O. spectabilis** Linnaeus. Showy orchis.

**HABENARIA** Willdenow.

\* **H. orbiculata** (Pursh). Round-leaved orchis.  
Moon Township, the McKee tract, July, 1887.

\* **H. lacera** (Michaux). Ragged orchis.

\* **H. peramœna** A. Gray. Fringeless purple orchis.  
Moon Township, near Thorn Run Station, August, 1898.

**CYPRIPEDIUM** Linnæus.

\* **C. hirsutum** Miller. Large yellow ladies' slipper.  
*C. pubescens* Willdenow.

\* **C. acaule** Aiton. Moccasin-flower.  
Moon Township, McKee tract, in fruit, September, 1888.

**IRIDACEÆ** Lindley.

IRIS FAMILY. III-25.

**IRIS** Linnæus.

\* **I. versicolor** Linnæus. Large blue flag.

\* **I. cristata** Aiton.

Robinson Township, hillside, near Brightwood Station.

**GEMMINGIA** Fabricius.*BELEMCAANDA* Adanson.\* **G. Chinensis** (Linnæus). Blackberry lily.

Moon Township. Escaped from gardens.

**SISYRINCHIUM** Linnæus.\* **S. angustifolium** Miller. Pointed blue-eyed grass.

Allegheny, Highwood Cemetery, October, 1889, John Ferguson.

\* **S. graminoides** Bicknell. Stout blue-eyed grass.**AMARYLLIDACEÆ** Lindley.

AMARYLLIS FAMILY. III-23.

**HYPOXIS** Linnæus.\* **H. hirsuta** (Linnæus). Star-grass.*H. erecta* Linnæus.**DIOSCOREACEÆ** Lindley.

YAM FAMILY. III-24.

**DIOSCOREA** Linnæus.\* **D. villosa** Linnæus. Wild yam.**SMILACEÆ** Ventenat.

SMILAX FAMILY. III-21.

**SMILAX** Linnæus.\* **S. herbacea** Linnæus. Carrion-flower.\* **S. rotundifolia** Linnæus. Common greenbrier.\* **S. glauca** Walter. Glaucous greenbrier.

Moon Township, Wm. Scott's farm, Nov. 10, 1889.

† **S. hispida** Muhlenberg. Hispid greenbrier.

**LILIACEÆ** Adanson.

## LILY FAMILY. III-19.

**ALLIUM** Linnæus.\* **A. tricoccum** Aiton. Wild leek.

South Fayette Township, near Herriotsville, May, 1871-1900.

Rev. S. W. Knipe.

Moon Township, J. J. Miller's Hollow, May, 1887-1899.

\* **A. cernuum** Roth. Wild onion.\* **A. Canadense** Linnaeus. Wild garlic.

Pittsburgh, near Salt-works Station, June, 1887. Prof. B. H. Patterson.

\* **A. vineale** Linnaeus. Field garlic.

Robinson Township, field opposite Groveton Station, July, 1899.

**ORNITHOGALUM** Linnaeus.\* **O. umbellatum** Linnaeus. Star of Bethlehem.

Moon Township, margin of woods, Evans' farm, May, 1896.

O'Hara Township, railroad embankment near Squaw Run, May, 1900.

**QUAMASIA** Rafinesque.*SCILLA* Linnaeus.† **Q. hyacinthina** (Rafinesque). Wild hyacinth.*S. Fraseri* A. Gray.

South Fayette Township, near Herriotsville, May, 1871. Rev. S. W. Knipe.

**HEMEROCALLIS** Linnaeus.\* **H. fulva** Linnaeus. Common day lily.

Commonly escaped to roadsides near dwellings.

**ERYTHRIONIUM** Linnæus.

- \* **E. Americanum** Kerr. Yellow adder's-tongue, or dog's-tooth violet.
- \* **E. albidum** Nuttall. White adder's-tongue, or dog's-tooth violet.

**LILIUM** Linnæus.

- † **L. Philadelphicum** Linnæus. Philadelphia lily.
- \* **L. superbum** Linnæus. Turkscap lily.
- \* **A. Canadense** Linnæus. Canada lily.

**CONVALLARIACEÆ** Link.

LILY-OF-THE-VALLEY FAMILY. III-20.

**ASPARAGUS** Linnæus.

- \* **A. officinalis** Linnæus. Asparagus.

**POLYGONATUM** Adanson.

- \* **P. biflorum** (Walter). Hairy Solomon's seal. .
- \* **P. commutatum** (Römer & Schultes). Smooth Solomon's seal.
- P. giganteum* Dietrich.

**VAGNERA** Adanson.

*SMILACINA* Desfontaine.

- \* **V. racemosa** (Linnæus). False Solomon's seal.

**UNIFOLIUM** Adanson.

*MAIANTHEMUM* Wiggers.

- \* **U. Canadense** (Desfontaine). False lily-of-the-valley.

**DISPORUM** Salisbury.*PROSARTES* Don.† **D. lanuginosum** (Michaux). Hairy disporum.**STREPTOPUS** Michaux.§ **S. amplexifolius** (Linnæus). Clasping twisted-stalk.**CLINTONIA** Rafinesque.\* **C. umbellulata** (Michaux). White clintonia.**MEDEOLA** Linnæus.\* **M. Virginiana** Linnæus. Indian cucumber-root.**TRILLIUM** Linnæus.\* **T. sessile** Linnæus. Sessile wake-robin.\* **T. nivale** Riddell. Early wake-robin.Lower St. Clair Township, Sawmill Run, at Jackson's Hollow,  
April, 1886.\* **T. grandiflorum** (Michaux). Large-flowered wake-robin.\* **T. erectum** Linnæus. Fetid wake-robin.

The white form is less common.

§ **T. undulatum** Willdenow. Painted wake-robin.*T. erythrocarpum* Michaux.**MELANTHACEÆ** R. Brown.

BUNCH-FLOWER FAMILY. III-18.

**UVULARIA** Linnaeus.\* **U. perfoliata** Linnæus. Perfoliate bellwort.\* **U. grandiflora** J. E. Smith. Large-flowered bellwort.

\* *U. sessilifolia* Linnæus. Sessile-leaved bellwort.

**CHAMÆLIRIUM** Willdenow.

\* *C. luteum* (Linnæus). Blazing-star.

*C. Carolinianum* Willdenow.

**STENANTHIUM** Kunth.

\* *S. robustum* S. Watson. Stout stenanthium.

Richland Township, near Gibsonia, August, 1900.

**MELANTHIUM** Linnæus.

\* *M. Virginicum* Linnæus. Bunch-flower.

Fawn Township, Branch of Bull Creek, Thos. Dixon's, July, 1896.

**VERATRUM** Linnæus.

\* *V. viride* Aiton. White hellebore.

Pine Township, Pine Creek, near Wexford, June, 1886.

**COMMELINACEÆ** Reichenbach.

SPIDERWORT FAMILY. III-15.

**COMMELINA** Linnæus.

\* *C. Virginica* Linnæus. Virginia day-flower.

**TRADESCANTIA** Linnæus.

\* *T. Virginiana* Linnæus. Spiderwort.

Marshall Township, wet field, near Thorn Hill P. O., June, 1896.

**JUNCACEÆ** Ventenat.

RUSH FAMILY. III-17.

**JUNCUS** Linnæus.

\* *J. effusus* Linnæus. Common soft rush.

- \* **J. tenuis** Willdenow. Bath-grass.
- † **J. bufonius** Linnæus. Toad rush.
- \* **J. acuminatus** Michaux. Sharp-fruited rush.
- \* **J. Canadensis** J. Gay. Canada rush.

- ? **J. Cæsariensis** Coville. New Jersey rush.
- J. asper* Engelmann.

**JUNCOIDES** Adanson.

*LUZULÆ* De Candolle.

- \* **J. campestre** (Linnæus). Common wood-rush.

- † **J. pilosum** (Linnæus). Hairy wood-rush.

**TYPHACEÆ** J. St. Hilaire.

CAT-TAIL FAMILY. III-1.

**TYPHA** Linnæus.

- \* **T. latifolia** Linnæus. Cat-tail.

**SPARGANIACEÆ** Agardh.

BURREED FAMILY. III-2.

**SPARGANIUM** Linnæus.

- † **S. eurycarpum** Engelmann. Broad-fruited bur-reed.

- † **S. simplex** Hudson. Simple-stemmed bur-reed.

**ARACEÆ** Necker.

ARUM FAMILY. III-9.

**ARISÆMA** Martens.

- \* **A. triphyllum** (Linnæus). Indian turnip.

\* **A. Dracontium** (Linnaeus). Green dragon.

Sterrett Township, low woods near C. C. Mellor's place, July, 1886.

**CALLA** Linnaeus.

§ **C. palustris** Linnaeus. Water arum.

**SPATHYEMA** Rafinesque.

**SYMPLOCARPUS** Salisbury.

\* **S. fœtida** (Linnaeus). Skunk cabbage.

**ACORUS** Linnaeus.

\* **A. Calamus** Linnaeus. Calamus-root.

**LEMNACEÆ** Dumortier.

DUCKWEED FAMILY. III-10.

**LEMNA** Linnaeus.

† **L. minor** Linnaeus. Lesser duckweed.

† **L. trisulca** Linnaeus. Star duckweed.

**VALLISNERIACEÆ** Dumortier.

TAPE-GRASS FAMILY. III-6.

**VALLISNERIA** Linnaeus.

\* **V. spiralis** Linnaeus. Tape-grass.

O'Hara Township, Allegheny River above Aspinwall, September 20, 1899.

**ALISMACEÆ** De Candolle.

WATER-PLANTAIN FAMILY. III-5.

**ALISMA** Linnaeus.

\* **A. Plantago-aquatica** Linnaeus. Water-plantain.

**SAGITTARIA** Linnæus.\* **S. latifolia** Willdenow. Broad arrow-leaf.*S. variabilis* Engelmann.**NAIADACEÆ** Lindley.

PONDWEED FAMILY. III-3.

**POTAMOGETON** Linnæus.\* **P. natans** Linnæus. Common floating pondweed.**CYPERACEÆ** J. St. Hilaire.

SEDGE FAMILY. III-8.

**CYPERUS** Linnæus.\* **C. flavescens** Linnæus. Yellow cyperus.\* **C. diandrus** Torrey. Low cyperus.\* **C. rivularis** Kunth. Shining cyperus.† **C. strigosus** Linnæus. Straw-colored cyperus.\* **C. speciosus** Vahl. Michaux's cyperus.**ELEOCHARIS** R. Brown.\* **E. ovata** (Roth). Ovoid spike-rush.† **E. palustris** (Linnæus). Creeping spike-rush.\* **E. tenuis** (Willdenow). Slender spike-rush.**SCIRPUS** Linnæus.\* **S. lacustris** Linnæus. Great bulrush.

\* **S. atrovirens** Muhlenberg. Dark bulrush.

\* **S. polyphyllus** Vahl. Leafy bulrush.

\* **S. lineatus** Michaux. Reddish bulrush.

\* **S. cyperinus** (Linnæus). Wool-grass.

**CAREX** Linnæus.

§ **C. intumescens** Rudge. Bladder sedge.

\* **C. Asa-Grayi** Bailey. Gray's sedge.

† **C. lupulina** Muhlenberg. Hop sedge.

† **C. lurida** Wahlenberg. Sallow sedge.

\* **C. squarrosa** Linnæus. Squarrose sedge.

\* **C. scabrata** Schweinitz. Rough sedge.

† **C. stricta** Lamarck. Tussock sedge.

† **C. torta** Boott. Twisted sedge.

\* **C. prasina** Wahlenberg. Dropping sedge.

† **C. limosa** Linnæus. Mud sedge.

† **C. crinita** Lamarck. Fringed sedge.

§ **C. gynandra** Schweinitz. Nodding sedge.

\* **C. virescens** Muhlenberg. Downy green sedge.

\* **C. costellata** Britton. Ribbed sedge.

*C. virescens* var. *costata* Dewey.

\* **C. triceps** Michaux. Hirsute sedge.

\* **C. gracillima** Schweinitz. Graceful sedge.

† **C. grisea** Wahlenberg. Gray sedge.

\* **C. glaucodea** Tuckerman. Glaucescent sedge.

\* **C. granularis** Muhlenberg. Meadow sedge.

† **C. granularis Shriveri** Britton. Shriver's meadow sedge.

*C. granularis* var. *Haleana* Porter not *C. Halei* Dewey.

† **C. flava** Linnæus. Yellow sedge.

† **C. Hitchcockiana** Dewey. Hitchcock's sedge.

† **C. laxiflora** Lamarck. Loose-flowered sedge.

† **C. laxiflora patulifolia** (Dewey). Loose flowered sedge.

† **C. Careyana** Torrey. Carey's sedge.

\* **C. Albursina** Sheldon. White-bear sedge.

*C. laxiflora* var. *latifolia* Boott.

† **C. plantaginea** Lamarck. Plantain-leaved sedge.

† **C. platyphylla** Carey. Broad-leaved sedge.

† **C. Pennsylvanica** Lamarck. Pennsylvania sedge.

\* **C. varia** Muhlenberg. Emmons' sedge.

\* **C. pubescens** Muhlenberg. Pubescent sedge.

\* **C. Jamesii** Schweinitz. James' sedge.

\* **C. stipata** Muhlenberg. Awl-fruited sedge.

\* **C. vulpinoidea** Michaux. Fox sedge.

† **C. rosea** Schkuhr. Stellate sedge.

\* **C. retroflexa** Muhlenberg. Reflexed sedge.

† **C. sparganioides** Muhlenberg. Bur-reed sedge.

\* **C. cephalophora** Muhlenberg. Oval-headed sedge.

† **C. Muhlenbergii** Schkuhr. Muhlenberg's sedge.

\* **C. tribuloides** Wahlenberg. Blunt broom sedge.

† **C. scoparia** Schkuhr. Pointed broom sedge.

### GRAMINEÆ Jussieu.

GRASS FAMILY. III-7.

#### SPARTINA Schreber.

\* **S. cynosuroides** (Linnæus). Tall marsh-grass.

**SYNTHERISMA** Walter.*PANICUM* Linnæus.\* **C. linearis** (Krock.). Small crab-grass.*P. glabrum* Gaudin.\* **S. sanguinalis** (Linnæus). Large crab-grass.*P. sanguinale* Linnæus.**PANICUM** Linnaeus.† **P. proliferum** Lamarck. Spreading panicum.† **P. capillare** Linnæus. Witch grass.† **P. virgatum** Linnæus. Tall smooth panicum.† **P. Porterianum** Nash. Porter's panicum.*P. latifolium* Walter.† **P. clandestinum** Linnæus. Hispid panicum.? **P. commutatum** Schultes. Variable panicum.† **P. depauperatum** Muhlenberg. Starved panicum.\* **P. pubescens** Lamarck. Hairy panicum.† **P. dichotomum** Linnæus. Forked panicum.† **P. laxiflorum** Lamarck. Lax-flowered panicum.\* **P. Crus-galli** Linnæus. Cockspur grass.**IXOPHORUS** Schlechtendal.*SETARIA* Beauvois.\* **I. verticillatus** (Linnæus). Foxtail-grass.

† *I. glaucus* (Linnæus). Yellow foxtail.

† *I. viridis* (Linnæus). Bottle-grass.

\* *I. Italicus* (Linnæus). Hungarian millet.

**CENCHRUS** Linnæus.

\* *C. tribuloides* (Linnæus). Bur-grass.

**HOMALOCENCHRUS** Mieg.

**LEERSIA** Swartz.

† *H. Virginicus* (Willdenow). White grass.

† *H. oryzoides* (Linnæus). Rice cut-grass.

**ANDROPOGON** Linnæus.

\* *A. furcatus* Muhlenberg. Forked beard-grass.

\* *A. scoparius* Michaux. Broom beard-grass.

**CHYSOPOGON** Trinius.

\* *C. avenaceus* (Michaux). Indian grass.

*C. mutans* A. Gray.

**PHALARIS** Linnæus.

\* *P. Canariensis* Linnæus. Canary-grass.

Occasionally about rubbish heaps.

\* *P. arundinacea* Linnæus. Reed canary-grass.

The variegated form occasionally escaped from near-by gardens.

**ANTHOXANTHUM** Linnæus.

† *A. odoratum* Linnæus. Sweet vernal-grass.

**MUHLENBERGIA** Schreber.

\* **M. Mexicana** (Linnæus). Meadow muhlenbergia.

† **M. tenuiflora** (Willdenow). Slender muhlenbergia.

\* **M. diffusa** Schreber. Dropseed grass.

**BRACHYELYTRUM** Schreber.

† **B. erectum** (Schreber). Brachyelytrum.

**PHLEUM** Linnæus.

\* **P. pratense** Linnæus. Timothy.

**ALOPECURUS** Linnæus.

\* **A. pratensis** Linnæus. Meadow foxtail.

**SPOROBOLUS** R. Brown.

\* **S. vaginæflorus** (Torrey). Rush-grass.

**AGROSTIS** Linnæus.

\* **A. alba** Linnæus. Red-top.

† **A. perennans** (Walter). Thin-grass.

† **A. hyemalis** (Walter). Hair-grass.

**CINNA** Linnæus.

† **C. arundinacea** Linnæus. Wood reed-grass.

**ARRHENATHERUM** Beauvois.

† **A. elatius** (Linnæus). Oat-grass.

**HOLCUS** Linnæus.

\* **H. lanatus** Linnæus. Velvet-grass.

**DESCHAMPSIA** Beauvois.

† **D. cæspitosa** (Linnæus). Tufted hair-grass.

**AVENA** Linnæus.

\* **A. sativa** Linnæus. Common oats.

Abundantly spontaneous.

**DANTHONIA** De Candolle.

\* **D. spicata** (Linnæus). Wild oat-grass.

**ELEUSINE** Gærtner.

\* **E. Indica** (Linnæus). Yard-grass.

**EATONIA** Rafinesque.

† **E. obtusata** (Michaux). Blunt eatonia.

† **E. Pennsylvanica** (De Candolle). Pennsylvania eatonia.

† **E. nitida** (Sprengel). Slender eatonia.

*E. Dudleyi* Veasey.

Near Pittsburgh, Pa.; Wm. R. Dudley, in Cayuga Flora, p. 127.

**ERAGROSTIS** Beauvois.

\* **E. hypnoides** (Lamarck). Creeping eragrostis.

*E. reptans* Nees.

† **E. Eragrostis** (Linnæus). Low eragrostis.

*E. minor* Host.

\* **E. major** Host. Scented eragrostis.

\* **E. pilosa** (Linnæus). Tufted eragrostis.

† **E. Purshii** Schrader. Pursh's eragrostis.

\* **E. capillaris** (Linnæus). Capillary eragrostis.

**UNIOLA** Linnæus.

\* **U. latifolia** Michaux. Broad spike-grass.

“Allegheny,” 1888, C. B. Beadle.

**DACTYLIS** Linnæus.

\* **D. glomerata** Linnæus. Orchard-grass.

**POA** Linnæus.

\* **P. annua** Linnæus. Annual meadow-grass.

\* **P. compressa** Linnæus. Wire-grass.

† **P. flava** Linnæus. False red-top.

*P. serotina* Ehrhart.

\* **P. pratensis** Linnæus. Kentucky blue-grass.

\* **P. trivialis** Linnæus. Roughish meadow-grass.

\* **P. sylvestris** Gray. Sylvan spear-grass.

\* **P. brevifolia** Muhlenberg. Short-leaved spear-grass.

**PANICULARIA** Fabricius.

**GLYCERIA** R. Brown.

\* **P. nervata** (Willdenow). Nerved manna-grass.

† **P. Americana** (Torrey). Tall manna-grass.

*G. grandis* Watson.

**FESTUCA** Linnæus.

† **F. ovina** Linnæus. Sheep's fescue-grass.

\* **F. nutans** Willdenow. Nodding fescue-grass.

† **F. elatior** Linnæus. Tall fescue-grass.

**BROMUS** Linnæus.

\* **B. secalinus** Linnæus. Upright chess, cheat.

† **B. racemosus** Linnæus. Wood chess.

† **B. ciliatus** Linnæus. Rye chess.

**LOLIUM** Linnæus.

† **L. perenne** Linnæus. Rye-grass.

**AGROPYRON** J. Gærtner.

\* **A. repens** (Linnæus). Couch-grass.

**TRITICUM** Linnæus.

\* **T. vulgare** Linnæus. Wheat.

Frequently spontaneous along railroad tracks.

**SECALE** Linnæus.

\* **S. cereale** Linnæus. Rye.

Spontaneous in waste places, occasionally.

**HORDEUM** Linnæus.

\* **H. vulgare** Linnæus. Common barley.

Along railroad tracks.

**ELYMUS** Linnæus.

\* **E. Virginicus** Linnæus. Virginia wild rye.

\* **E. Canadensis** Linnæus. Nodding wild rye.

**HYSTRIX** Mœnch.*ASPRELLA* Willdenow.\* **H. Hystrix** (Linnæus). Bottle-brush grass.**EQUISETACEÆ** Michaux.

HORSETAIL FAMILY. I-8.

**EQUISETUM** Linnæus.\* **E. arvense** Linnæus. Field horsetail.\* **E. sylvaticum** Linnæus. Wood horsetail.\* **E. hyemale** Linnæus. Common scouring-rush.\* **E. lævigatum** Braun. Smooth scouring-rush.

Fawn Township, on banks of Bull Creek, July, 1885.

**POLYPODIACEÆ** R. Brown.

FERN FAMILY. I-5.

**POLYPODIUM** Linnæus.\* **P. vulgare** Linnæus. Common polypody.**ADIANTUM** Linnæus.\* **A. pedatum** Linnæus. Maiden-hair fern.**PTERIS** Linnæus.\* **P. aquilina** Linnæus. Bracken.**CHEILANTHES** Swartz.\* **C. lanosa** (Michaux). Hairy lip-fern.*C. vestita* Swartz.**PELLÆA** Link.§ **P. atropurpurea** (Linnæus). Purple-stemmed cliff-brake.

**ATHYRIUM** Roth.*ASPLENIUM* Linnæus.§ **A. pinnatifidum** (Nuttall). Pinnatifid spleenwort.\* **A. Trichomanes** (Linnæus). Maiden-hair spleenwort.\* **A. platyneuron** (Linnæus). Ebony spleenwort.*A. ebeneum* Aiton.§ **A. montanum** (Willdenow). Mountain spleenwort.\* **A. angustifolium** (Michaux). Narrow-leaved spleenwort.\* **A. acrostichoides** (Swartz). Silvery spleenwort.*A. thelypteroides* Michaux.\* **A. Filix-fœmina** (Linnæus). Lady-fern.**CAMPTOSORUS** Link.\* **C. rhizophyllum** (Linnæus). Walking-fern.**PHEGOPTERIS** Fée.\* **P. hexagonoptera** (Michaux). Broad beech-fern.\* **P. Dryopteris** (Linnæus). Oak-fern.

Robinson Township, branch of Montour's Run, June 1, 1886.

**DRYOPTERIS** Adanson.*ASPIDIUM* Swartz.\* **D. Thelypteris** (Linnæus). Marsh shield-fern.\* **D. Noveboracensis** (Linnæus). New York fern.\* **D. spinulosa intermedia** (Muhlenberg). Wood fern.

\* **D. cristata** (Linnæus). Crested shield-fern.  
O'Hara Township, swamp, near Poor Farm, September 20, 1899.

\* **D. Goldieana** (Hooker). Goldie's fern.

? **D. Filix-mas** (Linnæus). Male fern.

\* **D. marginalis** (Linnæus). Evergreen wood-fern.

\* **D. acrostichoides** (Michaux). Christmas fern.

**FILIX** Adanson.

*CYSTOPTERIS* Bernhardi.

\* **F. bulbifera** (Linnæus). Bladder fern.

\* **F. fragilis** (Linnæus). Brittle fern.

**ONOCLEA** Linnæus.

\* **O. sensibilis** Linnæus. Sensitive fern.

§ **O. Struthiopteris** (Linnæus). Ostrich fern.

**WOODSIA** R. Brown.

\* **W. obtusa** Sprengel. Blunt-lobed woodsia.

**DANNSTÆDTIA** Bernhardi.

*DICKSONIA* L'Heritier.

\* **D. punctilobula** (Michaux). Hay-scented fern.

**OSMUNDACEÆ** R. Brown.

ROYAL FERN FAMILY. I-2.

**OSMUNDA** Linnæus.

\* **O. regalis** (Linnæus). Royal fern.

O'Hara Township, swamp near Poor Farm, May, 1900, D. A. Atkinson.

O'Hara Township, Squaw Run, June, 1900. W. N. Miller.

\* **O. cinnamomea** Linnaeus. Cinnamon fern.

\* **O. Claytoniana** Linnaeus. Interrupted fern.

### OPHIOGLOSSACEÆ Presl.

ADDER'S-TONGUE FAMILY. I-1.

**OPHIOGLOSSUM** Linnaeus.

† **O. vulgatum** Linnaeus. Adder's tongue.

### BOTRYCHIUM Swartz.

† **B. Lunaria** (Linnaeus). Moonwort.

\* **B. obliquum** Muhlenberg. Oblique grape fern.

\* **B. dissectum** Sprengel. Cut-leaf grape fern.

\* **B. Virginianum** (Linnaeus). Virginja grape fern.

### LYCOPODIACEÆ Michaux.

CLUBMOSS FAMILY. I-9.

**LYCOPODIUM** Linnaeus.

\* **L. lucidulum** Michaux. Shining club-moss.

\* **L. complanatum** Linnaeus. Trailing club-moss.

Moon Township, Tomlinson's Hollow, near Carnot, April 18, 1898; Miss Lily Dally.

O'Hara Township, Squaw Run, October, 1899; J. L. Graf.

**SELAGINELLACEÆ** Underwood.

**SELAGINELLA** FAMILY. 1-10.

**SELAGINELLA** Beauvois.

\* **S. apus** (Linnæus). Creeping selaginella.

Fawn Township, Branch of Bull Creek, July, 1895.

Harrison Township, Little Bull Creek, near Burtner's stone house, August 25, 1900; John Thorpe.

### III. SOME NEW AND LITTLE KNOWN FOSSIL VERTEBRATES.

By J. B. HATCHER.

(PLATES I-IV.)

The present paper is based upon material brought together by the paleontological expedition of 1900, for which Mr. Andrew Carnegie generously supplied the necessary funds. The material has been freed from the matrix and prepared for study, either directly by, or under the immediate supervision of, Mr. A. S. Coggeshall, the chief preparator of the Museum in the Section of Vertebrate Paleontology. In the performance of this work Mr. Coggeshall has shown unusual skill and patience. The illustrations are from drawings by Mr. W. J. Carpenter and photographs by Mr. A. S. Coggeshall. In each instance they accurately illustrate important details of form and structure in the specimens described.

#### Class PISCES.

##### *Platacodon nanus*<sup>1</sup> Marsh.

In a former paper I have called attention to the undoubted ichthyic nature of the diminutive teeth collected by the writer several years ago and described by the late Professor Marsh as mammalian under the above name.<sup>2</sup> Subsequent to Professor Marsh's description of the types of this genus and species the present writer discovered in the same immediate locality, from which he secured the type specimens, two small dental plates, each bearing ankylosed teeth of the same size and pattern as the detached teeth described by Professor Marsh. The nature of these dental plates and the teeth they supported fixed at the same time their ichthyic nature and their identity with *Platacodon*. Both of these points Professor Marsh fully realized and frequently expressed in conversation with the writer. Other pressing duties doubtless prevented his making the necessary correction prior to his untimely death. During the past season I had occasion to visit the same

<sup>1</sup> See Am. Journ. Sci., Vol. XXXVIII, Aug., 1899, p. 178.

<sup>2</sup> See Science, N. S., Vol. XII, Nov. 9, 1900, p. 719.







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